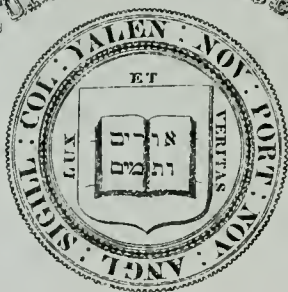


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PROCEEDINGS AND DEBATES

OF THE

FOURTH NATIONAL
1860

Quarantine and Sanitary Convention,

HELD

IN THE CITY OF BOSTON,

JUNE 14, 15, AND 16, 1860.

REPORTED FOR THE CITY COUNCIL OF BOSTON.

BOSTON:
GEO. C. RAND & AVERY, CITY PRINTERS,
NO. 3 CORNHILL.
1860.

CITY OF BOSTON.

In Board of Aldermen, Sept. 3, 1860.

Ordered, That the Committee on the Reception and Entertainment of the Fourth National Quarantine and Sanitary Convention be authorized, in conjunction with the Committee on Printing, to print the Proceedings and Debates of said Convention, and that the expense thereof be charged to the Appropriation for Incidental Expenses and Miscellaneous Claims.

Read twice and passed.

Sent down for concurrence,

OTIS CLAPP, *Chairman.*

In Common Council, September 6, 1860.

Concurred,

J. P. BRADLEE, *President.*

Approved, Sept. 8, 1860.

F. W. LINCOLN, JR., *Mayor.*

Reported and printed under the direction of the Joint Special Committee upon the Entertainment of the Fourth National Quarantine and Sanitary Convention.

Alderman	FRANCIS E. FAXON,	}	<i>Committee.</i>
"	HARRISON O. BRIGGS,		
"	SILAS PIERCE,		
Councilman	ANSEL LOTHROP,		
"	PRESCOTT BARKER,		
"	HORACE JENKINS,		
"	J. W. ROBERTS,	}	
"	L. S. HAPGOOD,		



INTRODUCTION.

THE transactions of no Association, recent in origin, voluntary in character, and changeable in composition, have attracted more general interest, or been productive of more beneficial results in their effect upon public sentiment and upon legislative action, than those of the National Quarantine and Sanitary Convention of the United States. The fourth session of the Convention, held in Boston, in June, 1860, though its debates and essays were less voluminous than those of some of its predecessors, was animated by an unabated interest in the cause of Sanitary Reform, and reached conclusions which will doubtless be no less useful in the future. The record of the discussions of the Convention and its attendant festive occasions being deemed of value to all Associations and individuals concerned in the promotion of public health and the advancement of Sanitary Science, a full Report thereof has been made and is printed in this volume, together with the papers submitted for the consideration of the Convention by Committees appointed in previous years. The publication has been attended with some unavoidable delays, and although considerable care has been used to make the history as accurate as possible, a few errors have occurred in the proof, which, it is hoped, by those who had the book in charge, will be kindly overlooked.

OFFICERS OF THE CONVENTION.

President.

DR. JACOB BIGELOW, of Boston.

Vice-Presidents.

HON. R. D. ARNOLD, Georgia.

A. H. STEVENS, M. D., New York.

H. G. CLARK, M. D., Massachusetts.

JOHN F. LAMB, M. D., Pennsylvania.

JUDSON GILMAN, M. D., Maryland.

HON. MOSES BIGELOW, New Jersey.

HON. J. C. KNIGHT, Rhode Island.

ROBERT THOMPSON, M. D., Ohio.

C. B. GUTHRIE, M. D., Tennessee.

THOMAS STEWARDSON, M. D., Pennsylvania.

HON. THOS. ASPINWALL, Massachusetts.

J. W. HOUCK, M. D., Maryland.

Secretaries.

CALVIN ELLIS, M. D., Boston.

J. B. JONES, M. D., Brooklyn, New York.

WM. TAYLOR, M. D., Newark.

DAVID C. DODD, Jr., Newark.

COMMITTEES FOR 1860-1861.

Committee of Arrangements for the ensuing Year.

- DR. EDWARD MEAD, Cincinnati.
MAYOR BISHOP, Cincinnati.
NICHOLAS LONGWORTH, Cincinnati.
DR. M. B. WRIGHT, Cincinnati.
R. B. BOWLER, Cincinnati.
J. M. WIGHTMAN, Boston.
WM. TAYLOR, Philadelphia.
DR. JUDSON GILMAN, Baltimore.
R. H. SHANNON, New York.
P. M. WETMORE, New York.

On External Hygiene. (Continued.)

- A. N. BELL, M. D., Brooklyn.
WILSON JEWELL, M. D., Philadelphia.
ELISHA HARRIS, M. D., New York.
R. D. ARNOLD, M. D., Savannah.
H. G. CLARK, M. D., Boston.

On Civic Cleanliness. (Continued.)

- E. L. VIELE, New York.
CHARLES H. HASWELL, New York.
HENRY GUERNSEY, M. D., New York.
E. M. SNOW, M. D., Providence, R. I.
OTIS CLAPP, Boston.
HENRY IRWIN, Virginia.

On Dispensaries. (Continued.)

- F. E. MATHER, New York.
H. ST. CLAIR ASH, M. D., Philadelphia.
SOLOMON D. TOWNSEND, M. D., Boston.
JUDSON GILMAN, M. D., Baltimore.
C. C. SAVAGE, Brooklyn.
J. B. ALLEY, M. D., Boston.

On the Nature and Sources of Miasmata.

ROBERT THOMPSON, M. D., Ohio.
G. W. COWDRY, M. D., Virginia.
JOHN BELL, M. D., Philadelphia.

**On the Quality and Supply of Food in Cities, Markets, and Abattoirs,
(Continued.)**

ELISHA HARRIS, M. D., New York.
JOHN JEFFRIES, JR., M. D., Massachusetts.
F. J. OTTARSON, New York.
STEPHEN SMITH, M. D., New York.
JOHN BELL, M. D., Philadelphia.

On State Medicine.

JOHN ORDRONAU, M. D., New York.
HON. MOSES KIMBALL, Boston.
ROBERT THOMPSON, M. D., Ohio.
A. LA ROCHE, M. D., Philadelphia.
A. N. McLAREN, M. D., U. S. A.

On Plans of Tenement Houses.

CHARLES H. HASWELL, New York.
S. B. HALLIDAY, New York.
JOSIAH CURTIS, M. D., Boston.
W. B. BIBBINS, M. D., New York.
H. G. CLARK, M. D., Boston.

On the Effects of Climate on Health.

GEORGE H. SNELLING, Boston.
JOSIAH CURTIS, M. D., Boston.
JOSIAH QUINCY, Jr., Boston.

On Hours of Labor.

GEORGE H. SNELLING, Boston.
S. B. HALLIDAY, New York.
HON. J. C. KNIGHT, Providence.

On Permanent Organization of the Association.

WILSON JEWELL, M. D., Philadelphia.
PROSPER M. WETMORE, New York.
J. M. WIGHTMAN, Boston.
J. H. GRISCOM, M. D., New York.
C. B. GUTHRIE, M. D., Memphis, Tenn.

On Maps for Statistical and Sanitary Purposes.

E. B. ELLIOT, M. D., Boston.

E. L. VIELE, New York.

R. D. ARNOLD, M. D., Savannah.

WM. S. RUSCHENBERGER, M. D., Philadelphia.

J. B. JONES, M. D., Brooklyn.

To aid in carrying out Resolution 2d of the Committee on External Hygiene.

Gov. EMERSON, Pennsylvania.

DR. DUNN, New York,

DR. SNOW, Rhode Island.

DR. MORIARTY, Massachusetts.

DR. J. A. NICHOLS, New Jersey.

DR. C. B. GUTHRIE, Tennessee.

DR. THOMPSON, Ohio.

DR. KEMP, Maryland.

FOURTH NATIONAL

Quarantine and Sanitary Convention.

THE Fourth National Quarantine and Sanitary Convention was held in the city of Boston, at the Hall of the Massachusetts Charitable Mechanics' Association, corner of Bedford and Chauncy streets, on Thursday, Friday, and Saturday, June 14th, 15th, and 16th, 1860.

The Convention was called to order at 10½ o'clock on Thursday morning, by Hon. FREDERIC W. LINCOLN, Jr., Mayor of Boston; and on motion of Alderman Silas Pierce of Boston, a temporary organization was effected by the choice of Dr. JOHN H. GRISCOM, of New York, President, and Dr. HENRY G. CLARK, of Boston, Secretary.

Dr. GRISCOM, on taking the Chair, said: I have to thank the Convention now assembled for this renewed evidence of their confidence in me; and on taking this Chair again, I deem it a fit subject for mutual congratulation, that we have been permitted to assemble once more, for the promotion of the great purpose for which this Convention has been organized, which will be seen by the programme of the proceedings, which will be laid before you, to promise no less interest than the three annual meetings which have preceded.

Alderman STARR, of New York, moved the appointment of a Committee, consisting of one delegate from each State represented in the Convention, to recommend a list of officers to the Convention.

Dr. STEVENS, of New York. I desire to offer an amendment, as expressive of the sense of the Convention in regard to the principle of rotation in office. That principle has been adopted in the case of the American Medical Association, and has been found to work beneficially. I move that the Committee, in the selection of officers, be instructed to adopt the principle of rotation in office.

Gen. WETMORE, of New York. I think the amendment unnecessary, because I believe it to be a well-settled principle of the Association, that rotation in office shall prevail; and I believe, also, that it is well understood that there is to be rotation here. A change took place from Philadelphia to Baltimore, and from Baltimore to New York, and certainly every member comes prepared to vote for another change,

now that we have got to Boston. I certainly hope that the motion will be withdrawn, when I assure the mover, as I do from my own knowledge, that his suggestion will be carried out. I would rather that this should seem to be the spontaneous action of the Convention, than under the trammels of instructions.

Dr. STEVENS then withdrew his motion.

On motion of Mr. Joseph M. Wightman, of Boston, a recess of ten minutes was taken, for the purpose of enabling each delegation to select its member for the committee just ordered.

On reassembling, the Committee to nominate a list of officers was announced, as follows: C. C. Savage, of New York; Joseph M. Wightman, of Massachusetts; Dr. Ruschenberger, of Pennsylvania; Isaac A. Nichols, of New Jersey; Edwin M. Snow, of Rhode Island; Jacob W. Houck, of Maryland; Hon. R. D. Arnold, of Georgia; C. B. Guthrie, of Tennessee; Robert Thompson, of Ohio.

The President stated that Dr. McLaren, of the Medical Department of the United States Army, had been delegated by the Secretary of War to attend the Convention, and was present, and that his name would be added to the Committee.

Mr. Wightman moved that the Committee now retire, for the purpose of nominating officers for the Convention, and the motion was agreed to.

On motion of Dr. Gilman, of Baltimore,

Voted, That until otherwise ordered, the rules and orders adopted by this Convention at its session in 1857, be adopted for its government during the present session.

Mayor Lincoln then addressed the Convention as follows:—

As the Chairman of the Executive Committee, appointed at the last session to make arrangements for this present meeting, I will state, that an invitation was sent out to all the societies represented in former Conventions, and all the Boards of Health in the different cities which have heretofore been represented; and in addition to this, we have followed an example which was established at the first Convention, and which has been followed up since, of inviting the local societies of Boston and vicinity to send representatives to this body; and we have also taken the liberty, as has been done in other cases, to invite distinguished gentlemen, not belonging to any particular body, known to be interested in sanitary matters, to take seats in the Convention. I have a list of the names of the delegates that have been registered this morning, and I suppose it would be well that it should be read, so that gentlemen may know who are associated with them. I will state, however, that the list is quite incomplete, as several gentlemen have already entered the hall who have not registered their

names, and the Executive Committee have received information of the appointment of a number of delegates, by several cities and societies, who have not yet arrived, but who probably will be here before the Convention closes its sessions. But a sufficient number are already assembled to enable the Convention to proceed with its business.

The list of names was then read, after which MAYOR LINCOLN proceeded, as follows :—

Mr. President, while I am on the floor, permit me, as the Chairman of the Executive Committee and the Chief Magistrate of this city, to give a most cordial welcome to the gentlemen who are here present. I cordially greet, not only our own citizens, but particularly the gentlemen who are here from other parts of the Union. The city of Boston, like many other large municipalities of the country,—indeed, of the civilized world,—has recently been awakened to the necessity of sanitary reform, not only in regard to quarantine matters, but in regard to hygiene and the internal health of the city proper. This is a subject, gentlemen, which interests not one city alone, but every city, North, South, East, and West, and all parts of the country are represented here. The fact that so many are here, representing so many different municipalities and different societies, is a sufficient indication of the paramount interest and importance of the subject. I will not trespass upon your time, or upon the province of the gentleman whom you may select as your presiding officer, by speaking at any length upon its importance. I will only say, in behalf of the Executive Committee, and of the municipal authorities, that we shall do everything in our power to facilitate the transaction of your business, and to make your stay in the city agreeable. I will also state, in this connection, that the Massachusetts Charitable Mechanics' Association, which has just completed this building, has generously given the use of this Hall to the Convention ; and we, on our part, will give you not only all the aid possible for business purposes, but shall proffer you such hospitalities as will give expression to our obligations to you for the honor of your presence in our city. (Loud Applause.)

On motion of Dr. Henry G. Clark, of Boston, it was

Voted, That those members of the Executive Committee who were not appointed as delegates to this Convention, be invited to take seats and record their names as members of the Convention.

On motion of Dr. Jewell, of Philadelphia,

Voted, That those members of committees appointed by the last Convention to report on certain subjects, who were not elected delegates to this Convention, be invited to take seats as members.

The following invitations were here read :—

LIBRARY OF THE BOSTON SOCIETY OF NATURAL HISTORY.

11 *Mason St.*, Boston, June 14, 1860.

The Council of the Boston Society of Natural History would respectfully invite the delegates to the Sanitary Convention to visit their

Rooms, at No. 11 Mason Street, at such time during their stay in Boston as may be convenient to them.

The portion of the African collection of Mr. Du Chaillu, containing the skins and skeletons of the Gorilla and other large anthropoid apes, has recently been transferred to their Cabinet. The Rooms are open from 9 A. M., to 6 P. M., except between 2 and 3 P. M. Respectfully,

S. KNEELAND, JR., *Sec'y.*

To the Chairman of the Sanitary Convention.

OFFICE OF THE BOARD OF DIRECTORS FOR PUBLIC INSTITUTIONS.

Boston, June 14, 1860.

SIR: In conformity with a vote of the Board of Directors for Public Institutions of the City of Boston, I hereby tender to the National Quarantine and Sanitary Convention, over which you preside, an invitation to visit the Institutions at Deer Island, in Boston Harbor, tomorrow, at such hour as may suit the convenience of the Convention.

I am proud, sir, to be the medium through which the above is communicated, and trust that it may be convenient and agreeable to the Convention to accept it. I am, sir, with great respect, your obedient servant.

JOSEPH SMITH, *President.*

To the President of the National Quarantine and Sanitary Convention, Boston.

The invitations were accepted, and the hour of two o'clock fixed for the visit to Deer Island.

The following invitation was also received and accepted:—

MAYOR'S OFFICE, CITY HALL.

Boston, June 14, 1860.

The undersigned, in behalf of the City Council of Boston, respectfully invites the members of the National Quarantine and Sanitary Convention, now in session in this city, to a Banquet to be given in honor of said Convention by the City Council of Boston, at the Revere House, on Saturday next, at 5 o'clock, P. M.

F. W. LINCOLN, JR., *Mayor.*

To the President of the National Quarantine and Sanitary Convention.

GEN. WETMORE, of New York. It is very evident, from the invitations which have been extended to us, and from the programme presented by the Executive Committee, that we shall have no spare time while in Boston,—the authorities have decided that for us. I

would suggest, therefore, that if any gentleman has any subject to bring forward, he should do it now, while the Committee are out, and that we proceed with the business as if the Convention were now organized, — not to decide upon any principle, but to present subjects upon which the Convention may act hereafter.

DR. STEVENS, of New York, announced the presence of Professor REUBEN D. MUZZY, of Cincinnati, and, on motion of Dr. La Roche, he was invited to a seat on the platform.

THE PRESIDENT. The several Committees appointed at the preceding session of the Convention have very commendably performed their duty, with one or two exceptions. Most of the Committees will be found to have reported upon the subjects committed to them. First, I hold in my hand a report upon the subject of the Registration of Births, Marriages, and Deaths, presented by Dr. Snow, of Providence. It is only necessary to announce the origin of this report, to satisfy the Convention that it is eminently practical in its character. I have also to present — or there will be presented to the proper Committee — a “Report upon Legal Restrictions for the Control of the sale of Poisons and Dangerous Drugs,” prepared by Dr. Guthrie, of Tennessee. The Committee on External Hygiene, appointed in 1859, presents a very able, thorough, and voluminous report, of forty-six pages, prepared by Dr. Bell, Dr. Harris, and Dr. Jewell. Further, there is a “Report on Civic Cleanliness and the Economical Disposition of the Refuse of Cities,” by Lieut. Viele, Chairman of the Committee; another able, voluminous, and very practical report, of forty-two pages. I have also to announce another report on the subject of Wet Docks, in connection with Quarantines, by Dr. Sterling, of New York. These reports have been printed, prior to the assembling of the Convention, in order that each member may have an opportunity to examine them, before action is taken upon them. The proceedings of the Convention, therefore, promise to equal in interest and utility, and I might perhaps also say in magnitude, the volume issued by the Convention of last year.

GEN. WETMORE, of New York.

Mr. President: As no one else seems disposed to act upon the suggestion just made by me, I will, with your permission, occupy a few moments while the Select Committee are absent, for the purpose of introducing a subject to be more fully considered by the Convention, when it shall have been duly organized.

This Convention is here in its fourth session. It is a body temporary in its organization, and therefore indefinite, to some extent, in regard to its powers and duties. The question has been raised for the

consideration of the members, at different times, whether an attempt should not be made to give it a permanent organization. I listened, last evening, on my way to this meeting, to a discussion between two eminent members of this body, and their opinions differed. I confess I am at a loss to say in what direction my own voice and vote would go upon this question, but you will see, Mr. President, and the Convention will see, that it is one of importance. A temporary organization will be apt to languish for want of active leaders, and unless there are great facilities for the management of business, in connection with an earnest zeal on the part of committees, the movement may possibly die out. On the other hand, it is objected to a permanent organization, that unless a new impulse can be infused into its counsels, from time to time, and fresh influences brought into active service, it may fail from the wearing out of the feeling which originated the organization. There is much to be said on both sides. I do not mean to indicate any opinion on my own part, but I desire that the wisdom of the Convention should be brought to bear upon the question. That the action of this body has done great good already, I, as a citizen of New York, may well bear my testimony; for it has entirely removed the most unjust, oppressive, and burdensome features of an institution which has far too long weighed heavily upon the energies of commerce. I refer to the declaration by this body at its last session, followed up by practical action in other quarters, in regard to the question of Quarantine. If any person had asked me three years ago if, in my judgment, yellow fever was contagious, I should most certainly have said that it was. I am satisfied now, from the statements then made, and from the opinions expressed by competent and experienced men of science, that there is no danger of a communication of the disease from one person ill with it to another.

Through the establishment of this great principle of non-contagion, under the influence of this Convention, burdens have been removed, and restrictions withdrawn from the commerce of the port of New York,—I think I may be justified in saying, from the commerce of the commercial metropolis of this country, and a relief thereby obtained, which has given a new impetus to that great element which makes us a prosperous nation,—the element of commerce,—the interchange of commodities, and the enlargement of intercourse between the different nations of the earth. It is a thing to be remembered, that by the action of this body, a long existing system of onerous obstructions has been removed, simply because in the light of science it was found to be unnecessary and injurious. There sits in this body to-day, the man, eminent for his great genius, his long experience, and the power of mind that he brings to bear in his professional labors, upon whose motion this reform was accomplished. He has a right to be proud that, as the result of his judgment, sagacity, and experience, this beneficent change has been perfected. Sir, the quarantine regulations established two hundred years ago by the Italian authorities, as a protection against the plague, have bound the energies of the modern commercial world until within the last twelve months. Upon the motion of Dr. Stevens, those shackles have been cast off. Commerce

now stands free and independent of all unnecessary restrictions ; and for one, I consider the action of this Convention in regard to the interests of commerce and the welfare of mankind, as only second to the Declaration of Independence in Philadelphia, nearly a hundred years ago. (Applause.) It was a declaration of independence for commerce, against unwise, unnecessary, and unjust restrictions.

Sir, we must not undervalue the influence which commerce holds upon the Christian welfare of the world at large. Wherever the flag of commerce makes its way, there follows the banner of the Cross. Missionaries tread in the footsteps of the pioneers of commerce, from one hemisphere to another ; and throughout the world, the promoters of commerce have been enabled to prepare the way, to sustain the efforts, and to encourage and keep alive the hopes and feelings in favor of Christianity among the heathen. Sir, it is to the credit of this country, — eminently so, to my mind, — that, following in the path of commerce, three great empires have been opened to the Christian church within the last six years. Under the wise and prudent conduct of the agent of the American government, the kingdom of Siam has been opened to the commerce of the nation and to the influences and the teachings of religion. Under the same enlightened policy, the barriers that so long existed in China have been broken down, happily, in our case, by the weapons of peace, and not of war.

And, sir, we have the evidence, at this moment before us, that after two hundred years of effort on the part of Christian nations to enter Japan, under the lead of American commerce and under the influence of American institutions, and by the aid of American skill in diplomacy, that mysterious empire has been opened as a new field for the enterprises of commerce, and for the conquests of civilization. Let it be remembered, too, to our credit as a people, that no selfish interests of trade were allowed to stain our national policy in Japan ; all the nations of Europe have been invited to enter upon the pathway of commerce opened by us, and to share in all the advantages we had obtained. (Applause.)

Our Government has already been put in communication with the representatives of that great nation, — a nation supposed to comprise fifty millions of souls, — a nation which has been known to commerce for more than two centuries, but which has steadily excluded all foreign intercourse, save with one favored people.

Holland, a country greatly to be respected for its enterprise and its national integrity, and which cannot justly be censured for its determination to pursue its own objects in its own peculiar way, had possession of the commerce of Japan two hundred years ago. But Holland never invited any other nation to take part in that commerce. All the influences that could justly be brought to bear by Holland upon the councils of Japan, were used to discourage and defeat competition.

What, let me ask, has been the course of the American government ? Within two months after it had secured its own commercial treaty, it invited other nations to participate in the achievement, and to share in its benefits. This was a policy in accordance with the true spirit of a commercial age, and the act itself will long redound to the

credit of the American functionary in Japan, by whom it was performed. Our country now, for the first time, has taken her rightful position among the leading nations of the earth engaged in the promotion of commerce and Christianity in the Eastern world.

Such are the fruits gathered from the tree planted by commerce. It is in ministering to these results, by promoting measures which give safety and efficiency to that branch of public industry, that our association will most effectively establish and maintain its power, and influence, and dignity.

These, Mr. President, are some of the reasons why I think the suggestion deserving of the careful consideration of the Convention; but I am admonished by the entrance of the Select Committee, that I must close these desultory remarks.

I now, sir, give notice, that, at the proper time, I will submit a motion to consider the propriety of making the organization of this Convention a permanent one,—that motion to be referred to the Business Committee, when appointed. (Applause.)

ALD. WIGHTMAN. In behalf of the Committee on Nominations, I will read the following Report:—

The Committee who were appointed to nominate officers for the permanent organization of the Convention, respectfully and unanimously present the following names for the several offices:—

PRESIDENT,

DR. JACOB BIGELOW, of Boston.

VICE-PRESIDENTS,

Hon. R. D. ARNOLD, M. D. Georgia;	Hon. J. C. KNIGHT, R. I.;
A. H. STEVENS, M. D., N. Y.;	ROBERT THOMPSON, M. D., O.;
H. G. CLARK, M. D., Mass.;	C. B. GUTHRIE, M. D., Tenn.;
JOHN F. LAMB, M. D., Penn.;	THOS. STEWARDSON, M. D., Penn.;
JUDSON GILMAN, M. D., Md.;	Hon. THOS. ASPINWALL, Mass.;
Hon. MOSES BIGELOW, N. J.;	J. W. HOUCK, M. D., Md.

SECRETARIES,

CALVIN ELLIS, M. D., Boston; WM. TAYLOR, M. D., Newark;
J. B. JONES, M. D. Brooklyn, N. Y.; Ald. DAVID C. DODD, Jr., Newark.

The Report was adopted, and Dr. Jewell and Gen. Wetmore were requested to wait upon the President elect, and conduct him to the Chair.

When Dr. Bigelow reached the platform, the President *pro tem.*, addressing him, said:—

It affords me great satisfaction to find myself succeeded by one so eminently deserving of the honor conferred upon him. You have long been known as an advocate of sanitary reform, and to no better

hands could the duties of this office be intrusted than to yours. You have work to do, sir,—much has been presented already,—and I have no doubt that you will do it with honor to yourself, and that the Convention will do itself honor in deciding upon the questions brought before it. I have the honor of inducting you to office.

Dr. BIGELOW then addressed the Convention as follows:—

GENTLEMEN OF THE CONVENTION: I accept, with diffidence, and even with reluctance, the oppressive honor with which you have clothed me, in calling me to preside over your deliberations; and I am disinclined, even if I were qualified, to descant upon the important duties and deep responsibilities which rest upon us all, as members of this Convention. These duties and these responsibilities are well known. They have been described and enforced many times, not only by eloquent gentlemen who have vacated the place I now fill, but by many gifted and distinguished individuals among the members of this Convention.

The fourth National Quarantine and Sanitary Convention comes together under favorable auspices, and with the prestige of an established reputation. The published labors of the annual meetings already passed are distinguished, in a high degree, by intelligence, impartiality, and untiring zeal, on the part of those who participated in them. The mass of documents emanating last year from the Convention which sat in New York, is fraught with evidence of the highest reaches of intellect and erudition. Seldom has any professional body, nay, any deliberative assembly in this country, charged even with the control of its greatest interests, brought into the field of discussion such an array of eloquent words, of lucid exposition, of well-ordered and appropriate diction, and of inexhaustible learning, as that which last year marked the assault and defence of the doctrine of the contagiousness of yellow fever.

And when the assembled professional wisdom of the country, backed by a tribunal of impartial and intelligent laymen, decided the point of the non-contagion of the disease, by a vote so overwhelming as to be all but unanimous; we knew not which most to admire, the clear-sighted intelligence which led to this result, or the spirit and splendor of the indomitable but unavailing defence.

Who can doubt the auspicious influence of these Conventions, who shall have read or listened to the fervent appeals then made by earnest and gifted men, the startling disclosures of misery and death brought on by remediable causes, until then neglected or ignored, and finally, the happy and harmonious adoption of the excellent sanitary code matured in this city, and amplified and sustained by the co-operating agency of many of the most distinguished physicians in all quarters of the Union?

It is well that, in this country, where government is not despotic, and where public opinion is paramount, the voice of an enlightened community on subjects of common welfare should be heard through their appropriate and delegated representatives. Such is the working of our social system, and such the source of the great progress that

has been made in this country in various fields of morals, of science, and of political economy. And here I would pause to pay a fitting tribute to the distinguished individual whose early foresight and unfaltering devotion, in the inception and subsequent advancement of these conventional assemblies, have brought forth the maturing fruits which we this day have the happiness to witness. (Applause.)

Gentlemen, I thank you that you have thought me worthy to assist in your deliberations. I know that you will approach the duties of your session with alacrity, with earnestness, and with a zeal which is according to knowledge. Confidently, then, do I commit to your hands the beneficent work of spreading over this vast country the protecting shield of your wisdom and experience.

Prayer was then offered by Rt. Rev. MANTON EASTBURN, Episcopal Bishop of Massachusetts.

Dr. GRISCOM offered the following resolution :—

Resolved, That a Standing Committee of thirteen be appointed by the Chair to prepare and arrange the business for the Convention.

The resolution was adopted.

On motion of Alderman Wightman, the several Special Committees appointed at the last Convention were called on for their reports.

The Committee on "Food,—its qualities and conditions in cities and large towns," &c., of which Dr. Harris, of New York, is Chairman, was called upon, when Dr. Griscom said :—

I am the bearer of a message from Dr. Harris, who is detained at home by illness. Considerable work has been done towards the preparation of a report on that subject, but it has been impossible to complete it. Dr. Jeffries is upon the Committee, and he is anxious that the work should be completed; but as it is a work of vast importance to the welfare of the human race, they have requested that further time should be allowed them to complete their report. The Committee are willing that it should be laid over until next year. In the mean time, Dr. Harris has prepared a series of questions, to be sent broadcast over the country, to ascertain the various aspects in which this subject may be viewed; and the results of these inquiries, when collected together, will form a large mass of information which will be exceedingly valuable as the basis for action and for future reference. I move that the Committee be continued another year.

The motion of Dr. Griscom was carried.

The Committee on "Civic Cleanliness, and the Economical Disposition of the Refuse of Cities," submitted their report, in print. On motion of Dr. Griscom, the report was laid upon the table until the arrival of the Chairman of the Committee, Lieut. E. L. Viele.

The Committee on "External Hygiene," and on the "Utility of Wet Docks in connection with Quarantines," also submitted their reports in print. A report on the "Registration of Births, Marriages,

and Deaths," prepared by Dr. Snow, of Providence, to whom the subject was specially assigned by the Committee on External Hygiene, was likewise presented, in pamphlet form.

The "Committee on Architecture, on Plans for Tenement Houses," on the "Causes and Control of Miasmata," and on "Dispensaries," were called upon, but there was no response.

Dr. Guthrie submitted a report, in print, upon "Legal Restrictions for the control of the sale of Poisons and Poisonous Drugs." Dr. G., on presenting his report, remarked:—

I would say, in regard to this report, that it expresses the views of the Chairman of the Committee. Neither of the gentlemen on that Committee with myself, responded, and I have made the report simply upon such examination as I have been able to give it. The report is in the hands of the Convention for their action.

On motion, the Report was received, and the Chairman requested to read it.

Dr. GUTHRIE. I wish to state to the Convention, before reading this Report, that previous to making an effort at drawing it up, I drew up a form of inquiry addressed to the Governors of the different States, asking for information upon the subject of such laws as existed in their several States in regard to this matter. In accordance with an agreement between Dr. Van Bibber, of Baltimore, and myself, the States east of the Mississippi River and south of Maryland were left to be reported upon by him. By a letter received from Dr. Van Bibber, a few days since, I learned that after drawing up this form of inquiry, and having the letters copied, he laid them carefully away in his desk, where they remained until he received my letter inquiring why I got no report from him. The Convention will understand, therefore, why there is no reference in the Report to the specific laws of the States in that section of the Union.

I had Reports from some of the Northern States, as from the Governors of Ohio and of Vermont; and from other States, I had the return, that they were not aware that any law upon the subject of poisons existed in those States; and even in the great State of New York, where there exists a state of things requiring legislation upon this subject more than any State in the Union, the Governor replied, through his private secretary, that he was not aware that any law existed upon the subject.

I mention these facts to show that this subject has not engaged the attention of lawmakers sufficiently to enable them to answer with correctness an inquiry upon this matter.

Dr. Guthrie then proceeded to read his Report, for which, see Appendix.

Dr. GUTHRIE. As to this list of poisons attached to the Report, I may say, to save inquiry, that I submitted a much larger list to the various apothecaries in New York city, who have more to do with this

matter than anybody else. In the list I submitted, were chloroform, verdigris, and two or three other articles. The statement with regard to chloroform, from one apothecary, was, that he considered it dangerous, and never sold it without record. Almost all the other gentlemen to whom I submitted the list, stated that chloroform was seldom sold but in small quantities, except in combination, as a liniment, and that it was almost impossible to keep a record of the sale of such liniments. And the ease with which a pound or more of that could be procured at any wholesale establishment, would almost preclude the possibility of reaching chloroform, except in the case of a small dose.

As Chairman of the Committee, I beg that the Convention will give to this Report the consideration it really deserves. I have no care to add to or strike out from the list of poisons. I have sought only to give to the Association, to go before the world, that which would be effective for the purpose designed.

Dr. JEWELL, of Philadelphia, moved that the Report be adopted, and ordered for publication.

Dr. GRISCOM. Do I understand, sir, that if that resolution is passed, this Convention adopts this Report and its sentiments? If so, sir, I have a word to say in relation to it.

Dr. STEVENS. I, also, think we should not hastily adopt the Report and its recommendations, without due reflection; and it seems to me that in the present state of the discussion, it had better lie over for a little more consideration. We should approach this subject, I think, with further consideration, and I move to lay it upon the table.

Dr. GUTHRIE, of Tennessee. I think the remarks of the gentleman quite pertinent; I do not see why the Convention need come to a decision just now. I am perfectly content with the motion to lay the subject upon the table, and think that the better course for us to take.

But Dr. Griscom asks whether the adoption and printing of this Report commits the Convention to its recommendations. If we adopt the precedent of the last Convention, it most certainly does. And it is well for the Convention not to adopt or print any report to which they cannot give their assent.

Dr. JEWELL withdrew his motion.

The motion to lay upon the table was unanimously adopted.

Dr. STEVENS, of New York, formally presented the Report of the Committee on the "Utility of Wet Docks." He said:—

Dr. Sterling, the proposer of a report on the Utility of Wet Docks, received the appointment of Chairman of the Committee on that subject. Dr. McDuffie and myself were appointed as his colleagues. Dr. Sterling has drawn up a very able Report, derived from his own experience; and he has some views worthy of attentive consideration. But I did not sign the Report myself; I withheld my name because, although I was willing that he should sign it, as Chairman, and present it for consideration, there were points in it which I was not prepared to recommend to the Convention. In the course of a day or two, the gentlemen of the Convention will have time to read and

consider it; and I present this Report, and move that it be laid upon the table.

The Report was laid upon the table.

Dr. STEVENS, of New York. I beg leave to occupy the time of the Convention for a few moments. Among the practical men in this assembly, — physicians of experience, — if I do not much mistake, a large number may be found who, I think, upon the question being put, if they have met with many cases of disease, often of a fatal character, arising in a situation otherwise healthy, and traceable to the decay of vegetable substances in the cellars, will respond that there is a large amount of experience showing the frequency and fatality of diseases arising from that source. Without being fully prepared to suggest a remedy, I have drawn up a resolution inviting inquiry upon that subject, to see if it be one upon which this Convention can safely recommend legislation tending to prevent such nuisances. What occurs to me is, that if a law should be passed, by which it might be prohibited to any man to build a dwelling-house in which there shall not be a flue connecting with the cellar, we should at once strike at the root of a vast and prolific source of malady. I will not go into particulars. But recently, — within a few years, — one of my friends went to Fairfield, in the pursuit of health, to spend the summer. Six of his family were taken sick, one after another, and in each case it was the result of the decay of vegetable substances in the cellar of the house. I have talked with many country physicians, and they have informed me of cases arising from this source, of low typhus fever, often fatal, and when not fatal, still very severe.

I present these remarks with great deference to the experience of other gentlemen. I beg leave to present the following resolution:

Resolved, That a Committee of be appointed to consider the expediency of obtaining municipal aid to prevent the building of any dwelling-house without a flue or some air-duct leading from the cellar to the top of the house.

I ask the suggestions of others. I see my friend, Dr. Childs, a gentleman of great experience and learning; and I would ask for some remarks from him.

Dr. CHILDS. I did not expect, sir, that I should be called upon to say a word in this assembly. In conversation with my friend, Dr. Stevens, yesterday, I mentioned to him one or two cases which occurred under my observation, which he thought interesting and important, and which he said he would be glad to have me state to this meeting. All I shall do, sir, will be to state those particular cases which came under my own observation.

One was that of a family consisting of father, mother, and six children, and a hired person, living in an elevated, healthy part of the town of Pittsfield. The man and his wife were suddenly taken with a most malignant fever. I was called very early. I perceived that the symptoms were of a fatal tendency, and was totally at a loss to account for the origin of the fever. No sickness had prevailed in that region, which was a healthy part of the town. But I perceived that

the disease was one of the most malignant character, — so much so, that it was very obvious, within twelve hours after I saw the first two taken — the man and his wife — that they would die. And nurses and watchers who were exposed, — every one that spent a few hours in the house, would be attacked by the disease. I immediately had the house cleared out. I was satisfied that there must be something about the house, in the cellar or somewhere, that gave rise to this poisonous effluvia, producing such disease as was manifest in the family. All the members of the family were attacked, and, moving them from this infected house, they all recovered, except the two heads of the family. I immediately began to inquire into the cause, so far as I could, and found, beyond all question, that the disease arose from the decomposition of a large quantity of cabbages, potatoes, and other vegetables, in a damp, wet cellar. This was in the spring of the year, when there was considerable heat. All that were removed, recovered very rapidly. The disease did not extend. It did not go into other families; it seemed to be confined to that house. I had the house evacuated entirely, — it was not occupied for a year, and thorough means were taken to purify it from this infection.

The other instance was of very much the same character. There were but four or five in the family. It commenced in the same way, — a malignant fever. Upon inquiry, I found there was the same condition of things in the cellar, — a large quantity of vegetables in a state of decomposition, giving out an exhalation which, I had no doubt whatever, gave rise to the disease which prevailed in those two families. I know of no other similar cases in my practice and observation, which, to be sure, has been pretty long, but with no pretence to careful and accurate observation; — but we do find, very often, that there are, in our habitations, local causes which give rise to epidemic, malignant disease, which frequently proves fatal. I am extremely gratified in the fact — upon which I suppose we may now rely — as respects many diseases that have heretofore been considered as contagious — for instance, yellow fever — and I think it one of the greatest advances in medical science that has occurred for many years, that we are enabled to say, and with confidence, that they are not contagious, — revolutionizing, of course, the quarantine regulations, and all the regulations that we should adopt wherever the disease prevails.

I have nothing of importance to say, and ought not to occupy the time of the Convention, except as those cases which have occurred under my own observation may go to confirm the views which others may present.

Dr. THOMPSON, of Ohio. I rejoice, Mr. President, that this subject has been proposed. I hear, occasionally, from year to year, of certain forms of disease occurring from the presence of putrefied vegetable substances in cellars. I had two cases of that character of disease, presented two months ago, caused by noxious exhalations from the cellar of a house in which some five persons became sick. After the cleansing of the basement and cellar, no new cases occurred.

In connection with this sanitary movement, I may be permitted to mention other causes of disease, — apple-butter, boiled cider, *et cetera*.

I had the honor of being physician to a deaf and dumb institution for twenty years. One year, great quantities of apple-butter were used, and there occurred in the institution a curious kind of disease, of which, I confess, I at first knew nothing. It was the year in which the potato disease was first spoken of. I had the cellar, and everything about the institution, examined, and could find nothing; and at length it occurred to me to inquire, specifically and in detail, what they had eaten. Among other things, I found they served up at dinner, every day, pastry made of apple-butter, apple-butter pie, — and that illuminated my mind as to the probable cause of the disease. It made my mind revert to a former well-known case of apple-butter poison, and also to a case of poison by boiled cider, in which a German who drank some of it, and said it was very good, died before he left the tavern.

Dr. GUTHRIE, of Tennessee. Mr. President, I am reluctant to interrupt the gentleman, but I rise to a point of order. If we would accomplish anything, practically, we must adhere to the business strictly before the Convention.

Dr. STEVENS moved the reference of his resolution to the Business Committee.

Dr. GRISCOM. Mr. President: Upon this resolution, allow me to say a word, which, I think, will settle the question definitely. There can be no doubt that the premises upon which Dr. Stevens bases that resolution are eminently correct. I can add my own testimony, as regards the city of New York, where much disease is occasioned by causes existing in the cellars of some of our most superb brown stone fronts. But, sir, in my opinion, this Convention has already settled that question, and there is no necessity of reaffirming what it has already done. In the code of sanitary law, presented by Dr. Clark, last year, and printed in the Transactions, the whole thing is definitely settled, under the head of "Cellars." It recommends the prohibition of cellars as dwellings, not having "a fire-place with a proper chimney, or other ventilating flue."

Dr. STEVENS withdrew his resolution.

Dr. J. B. S. JACKSON, of Boston. Mr. President: The Report on External Hygiene is now ready; and I move that it be called up.

I believe that some explanation is required, as to the members of the Committee. Dr. Nichols, of New Jersey, and Dr. Reid, of Wisconsin, were members appointed at the last Convention. Owing to a press of business, Dr. Nichols was unable to serve on the Committee, and therefore, by virtue of the resolution subsequently passed, the assistance of Dr. Jewell was obtained, and he was appointed upon the Committee in place of Dr. Nichols. Dr. Reid's name is not signed to the Report, for the reason that he was not able to co-operate with the Committee, on account of affliction, and other causes. But I lay before the Convention a letter from Dr. Reid, entitled, "A Brief Summary on the importance of establishing an International System of Quarantine," and request that it be placed upon the minutes, or acted upon, as the Business Committee may direct.

Dr. JEWELL, of Philadelphia. I rise to an inquiry. It is my understanding that the printing of these Reports should be for the facilitating of the business of the Convention, and that the printed Reports should be placed in the hands of the delegates, that they may have an opportunity to look them over, and come, upon the following day, prepared to act upon them. It seems to me, sir, that it would save a great deal of time in the reading of forty-six pages of reading matter, if the Chairman of the Committee will be willing to suspend the reading of the Report, and if the printed Report lie over till tomorrow, when it can come up for action. Reports in manuscript will, of course, have to be read.

Dr. J. B. S. JACKSON. I was about to ask that the reading of the Report be dispensed with; and I would move that the Report be referred to the Business Committee to be appointed by the Chair, to be called up in its regular order.

The motion was adopted.

Dr. JEWELL. At the commencement of this session, a resolution was offered, that the order of business as adopted in 1857 be the order of business of this Convention. I would take the opportunity to say that the order of business of that Convention was according to Matthias's Manual. We have received no Report. The reading of the Report is its reception; it is then referred to the Business Committee, and laid upon the table.

Voted, to receive the Report, and lay it upon the table.

On motion, the accompanying letter of Dr. Reid was laid upon the table, to be called up with the Report.

The Report of the Committee on Registration was received, and laid upon the table.

Adjourned to 4 o'clock, P. M.

AFTERNOON SESSION. The Convention was called to order by the President, at 4½ o'clock.

The records of the morning session were read by the Secretary, and approved.

An invitation from Gideon Haynes, Warden of the State Prison, requesting the members of the Convention to visit that Institution, was received, read, and accepted.

The President then announced the Business Committee, as follows:

Dr. John H. Griscom, of N. Y.; Dr. John M. Moriarty, of Mass.; Dr. Wilson Jewell, of Penn.; Dr. Judson Gilman, of Md.; Dr. John Jeffries, of Mass.; Dr. Edward Mead, of Ohio; Dr. E. M. Snow, of R. I.; Joseph M. Wightman, of Mass.; Dr. C. B. Guthrie, of Tenn.; Dr. L. A. Sayre, of N. Y.; Dr. John F. Lamb, of Penn.; Dr. Lewis W. Oakley, of N. J.; Prosper M. Wetmore, of N. Y.

On motion of Mayor Lincoln, the several Reports of Committees, already presented, were taken from the table, and referred to the Business Committee.

Dr. JEWELL. I would suggest, that in calling for the Reports of Committees, we neglected the Committee on "Vaccination," whose Report was postponed at the last session, and further time granted to the Committee.

Dr. CLARK, of Boston. I distinctly recollect seeing it stated in the printed proceedings of last year that the Committee on Vaccination was continued. I have in my hands the printed minutes of that Convention, and will read a paragraph on page 37 : —

"A. N. Bell, M.D., moved that Dr. Arnold be continued in charge of the subject of vaccination, as preventive of variola, and the value of revaccination, with a view to the enactment of laws for the enforcement of general vaccination and revaccination."

Although no record is made of the fact, it is presumed that this motion prevailed.

Dr. ARNOLD, of Georgia. All I can say is, that this is the first information I have had upon the subject. I have had no opportunity to see the printed proceedings. It would have required but very little time to make a report. I could have made one very easily, founded on positive belief, and drawn from positive information. All I can say is, that so far as my experience of thirty years in the profession goes, and having had considerable experience as a city officer in Savannah, smallpox is almost the only disease we quarantine. Nearly all the other diseases that excite so many fears in the old ladies that wear breeches, do not disturb us. We do believe that smallpox is contagious, and that vaccination is a protection against it. I could, in a very few pages, have given to the Convention my experience upon this matter, which is positive in its character. I am of the opinion that we all ought to have as much confidence in vaccination as did the immortal Jenner, who promulgated it. (Applause.)

Dr. JACKSON moved that Dr. Arnold's Report be accepted.

THE PRESIDENT. It proves to be very acceptable.

The motion of Dr. Jackson was adopted.

Hon. MOSES KIMBALL, of Boston. There is a subject of vast importance to the people of this State, which it seems to me may be very properly considered by this Convention, if there is time. I allude to the existing cattle disease, about which so little seems to be known, and upon which only such vague opinions are arrived at by medical men. Without detaining the Convention by discussing the subject, I will submit a resolution, and ask that it be referred to the Business Committee, leaving it to them to decide whether the matter is of sufficient importance to call for action by this body. Before doing so, however, I will state that the entire testimony presented to the Legislature, as taken down by a short-hand writer, is now about to be published, and will be furnished to each member of the Convention. That Report, together with the Report of His Excellency the Governor, contains all the information which the Legislature has received ; and from that, it will be for you medical gentlemen to say whether the disease is infectious, — whether it can be stayed by vaccination,

and whether it is possible to cure it at all. I propose to read a preamble and resolution : —

Whereas, In view of the panic existing in this and other States, in regard to the disease among cattlè, known as "Pleuro-Pneumonia," and the uncertainty as to whether said disease is contagious or not, and also as to the best mode of treatment, or of possible cure, — therefore,

Resolved, That a Committee be appointed to take this whole subject into consideration.

I move that the resolution be referred to the Business Committee.

After some discussion in regard to the form of the resolution, and the disposition proper to be made of it, the motion of Mr. Kimball was adopted, and the resolutions went to the Business Committee.

Dr. ORDRONAU, of New York. The matter which has just been before the Convention affords a very happy illustration of a point which I hope to present to the Convention to-morrow morning, namely, that there is no proper Committee, *eo nomine*, before which such subjects can come, and that, if considered at all, special Committees must be appointed for that purpose. I therefore give notice that I shall offer a resolution to-morrow for the appointment of a Committee of five, to be called "the Committee on State Medicine."

Dr. GRISCOM, in behalf of the Business Committee, offered the following resolutions : —

Resolved, That the Convention take into consideration the expediency of recommending the passage of a law in relation to poisons and dangerous drugs, as recommended in the appendix to the Report submitted by Dr. Guthrie, "On the control of the sale of poisons."

Resolved, That the Convention take consideration of the Report of the Committee on External Hygiene, and the code of Marine Hygiene recommended therein.

Dr. GRISCOM moved the adoption of the first resolution. .

Dr. JEWELL. I object entirely to furnish instructions to any Legislature as to what drugs they shall define as poisons, or as to what special law they shall enact upon the subject of the sale of drugs. I think it would be more becoming this national body merely to submit the Report, with a simple resolution appended, recommending to the different States to pass laws regulating the sale of poisonous drugs ; and I think, sir, when we do that, we do all that we ought to do in the matter. Indeed, sir, I am not altogether clear on the propriety of this Convention meddling with the subject at all. I know, sir, that within the last few years, very considerable attention has been given to the question, owing to the frequency of accidental and criminal poisonings which have taken place ; and there prevails much diversity of sentiment as to whether direct legislation for the restriction of the sale of poisonous drugs will effectually remedy the evil. But taking the side of the Report now before us, that legal restrictions are demanded, there will be unquestionably some difficulty in framing a law

that will particularize the poisons that are not to be sold from the druggists' shelves.

Why, sir, the list of poisons inserted in the Appendix to the Report is far from being complete, as there are many which are equally poisonous with those that are named, and we should do injustice to the subject by passing the Appendix as it now stands. If a careful examination be made of the properties of some of the more ordinary drugs on sale, as well as the pharmaceutical preparations of the laboratory, it will be discovered that there is scarcely one that is not poisonous in its character, or that may not produce death; and shall we undertake to define what drugs and chemicals come under the class of poisons? It occurs to me, that if we attempt that object, we must extend the list to a very great length, and then it may prove imperfect, as we are neither a medical nor pharmaceutical body.

Then again, sir, I object to the form of the law, as there recommended, defining what regulations shall be made by druggists in regard to the sale of these drugs. That, sir, is a recommendation that can never be carried out. Do you tell me that the druggists in Philadelphia, New York city, and in Boston, are not competent to regulate the sale of their drugs? I think, sir, that it is an insult offered to a respectable druggist, to say that he shall be compelled to go to a State Society, or to two respectable physicians in the place where he lives, and obtain their signatures, before he shall be permitted to sell drugs.

I hold, that our druggists are an intelligent and scientific class of men, — that they are competent to regulate their own business, without the interference of this Convention, and that, if needs be, they will consider this question of the legal sale of poisons in their own American Pharmaceutical Association, and where already, I am informed, the subject has been discussed and dismissed as one that cannot effectually be remedied through statutory regulations. This evil will remedy itself in time. The increased intelligence among druggists, and the desirableness on their part to place a check upon the facilities for obtaining deadly poisons, may be all that is required.

The accidents that have taken place are the result of carelessness or ignorance on the part of the dispenser of the articles, — not, however, by the proprietors of the stores, but by incompetent boys in their employ. And this is the great fault, after all, that so many of our stores are left in charge, at certain times, of those who are not capable of dispensing drugs and medicines.

I, for one, consider the plan proposed by the Committee, in the Appendix, as impracticable to carry out, and I think that all we can do, if anything is proper to be done, is to recommend to the Legislatures of the several States the passage of a law regulating the sale of poisons. That is all I have to say upon the subject.

THE PRESIDENT. Do you propose any amendment?

Dr. JEWELL. No, sir. I should like to hear the views of the Convention upon the subject. I should be very willing to offer an amendment, if such is the sentiment of the Convention; but I do not wish to restrict them to any amendment of that kind. I would much rather

they should discuss the question upon its merits, as it is presented in the Appendix.

Dr. GRISCOM. There certainly exists a great necessity for the adoption of some means by which the sale of poisons and dangerous drugs shall be regulated, and put under the control of law. Here is a proposition for that purpose. The plain question is before us: does this proposition meet the wants of the case? I think, Mr. President, upon a careful examination of the law, as recommended in the Appendix to this Report, the Convention must come to the conclusion, that in view of the strong statements presented in the Report itself, this law would be inefficient and inoperative for any good, if passed by the Legislature of any State. It does not place, as I apprehend it, any check whatever upon the sale of drugs. I say, *none whatever*. It merely restricts the right to sell to certain persons, and those persons are to be authorized to sell poisonous drugs and medicines just as extensively, without any further guards than now exist, except that the *character of the seller* is to be determined by certain forms, and there are several modes, according to the proposed law, by which this may be accomplished. The first authority mentioned is a diploma or certificate of membership of a college of pharmacy. I believe there are but two such colleges in the United States,—one in New York, and another in Philadelphia.

Dr. GUTHRIE. There are several of them. There is one in Boston, one in New York, one in Philadelphia—the largest in the United States—there is an effective one in Baltimore; there is a living one in Cincinnati; a growing one in St. Louis; one in California, one in Richmond, and one or two other incipient ones.

Dr. GRISCOM. I am very happy to be corrected, though I believe that all but the first five mentioned by Dr. Guthrie will be found to be but *pharmaceutical associations*, and not colleges. We find, then, that but five of the States are furnished with colleges, from which a diploma or certificate could be obtained. But let us go further, and suppose every State in the Union to be furnished with a college of pharmacy. This law does not make the possession of its diploma obligatory upon the dispenser or vender of poisonous drugs, but in the absence of such a document, it requires the certificate of the "American Pharmaceutical Association," or that of "two or more physicians in regular and active practice." What does that mean, but that any two physicians may give a certificate to an apothecary, or any individual who chooses to call himself an apothecary, and he may sell poisons. Now, every one who knows the character of many medical practitioners, even of some of those in regular standing, knows that many of them will give a certificate *for a consideration*; and many do not know what are the requisite qualifications for an apothecary, nor are they even able, in many instances, to distinguish the medicines which they prescribe, for they never see anything more of them than the name on the prescription papers. In such cases, the whole force and good intent of the law would be lost. I think, therefore, that it would be exceedingly unwise and unfortunate for the Convention to commit itself to any such law.

With regard to the list of poisons, I agree with Dr. Jewell, that there are some others which ought to be included in it; and on turning to the Report, I find that some States have already passed laws upon this subject, and far more efficient laws than this seems to be. I think no poisons should be allowed to go out of an apothecary's shop, except on the prescription of a physician. Laudanum, even, should never be allowed to be sold in any quantity larger than an ordinary dose, nor any poison delivered, except under the sign-manual of a physician, who then becomes responsible for the safety of his patient. A case has recently occurred in the city from which Dr. Jewell comes, which illustrates the danger of mistakes in putting up the prescriptions of physicians. A body was a corpse in twelve hours, in consequence of a mistake made by the apothecary in putting up the prescription; and this mistake occurred only from the hasty and erroneous reading of it. Look whichever way we will, there is danger; but the indiscriminate sale of poisons demands most careful restriction.

Dr. BIGELOW — (Dr. ARNOLD, of Georgia, in the chair). I have for one moment more requested the Vice-President to take the chair, that I might say a few words upon this subject.

The whole question was thoroughly discussed in this city, some years ago, during a capital trial in a case of poisoning by arsenic, and it was fully investigated, in all its bearings. The evil of the sale of poisonous drugs was found to be extensive, but after the most mature and protracted agitation of the subject, it was given up, under the general conviction that it is not a subject to be governed by legislation, but that it must be controlled by operating upon public opinion. It was found that most enormous quantities of arsenic, and other poisonous drugs, were sold in this city. I take arsenic as a specimen. One apothecary told me that he always kept arsenic done up in half ounce papers, which he sold to anybody that inquired for it; and upon my asking how many such papers he sold in a year, he made an investigation, and told me that he sold between seventy and eighty half ounces, generally for the alleged purpose of poisoning rats. It was also ascertained to be a notorious fact, that arsenic, in some form or other, is sold under other names, and that the article commonly vended by the name of cobalt, in apothecaries' shops, for the purpose of poisoning flies, is nothing more nor less than a very common compound of arsenic. It is also well known that this counterfeit cobalt is extensively sold to provision dealers, bakers, confectioners, market-men, and to other people who wish to rid themselves of flies. The evil in this instance and many others was found to be so extensive, that great efforts were made to remedy it, and preparatory measures were taken to address the Legislature in order to procure an act for the restriction of the sale of poisons. It was however universally resisted by the apothecaries, who said that they did not wish to be hampered in the sale of anything that came legitimately within their province; that half their medicines were poisons, if taken in sufficient doses; that it was impossible for them or for the Legislature of any State to define exactly what articles should be prohibited, and what should not; and it would be found, moreover, that the more the attempt was made

to hedge in the sale of these articles by restrictive laws, the more would cunning and dishonest men endeavor to evade those laws, so that the restriction would amount to nothing in the result. The course was then taken, which proved more effectual, of writing in the newspapers, so as to alarm the public in regard to their own safety. They were told that the article called "cobalt," — the article called "fly poison," — was nothing more nor less than arsenic; they were told that indiscreet persons were in the habit of using it freely, and that a vast number of apothecaries sold it to all persons, not knowing, or not choosing to know, that it was arsenic, but taking it for granted that it was a preparation of the other metal called cobalt. Public opinion became excited, people were put upon their guard, and I think I may truly say that the evil was put down more effectually by this measure than it could have been by any legislation upon the subject. I think that the druggists themselves, with reference to their own reputation, and with reference to the safety of all those who employ them, would voluntarily take upon themselves as far as possible to prevent the improper and dangerous sales of these articles.

Dr. JOHN ORDRONAU, of New York. I have but few words to say, especially after the happy and very exhaustive remarks which you, sir, as an expert of many years' standing, have offered upon the subject; but I should do injustice to my own position in the community as well as in the profession, if I did not vindicate before this Convention the *spirit* of the Report which is now presented for its consideration.

I must say, at the outset, that I am somewhat surprised at the tone of cautious consideration which pervaded the remarks of Dr. Jewell, when referring to the *sensitiveness* of apothecaries. Their tender feelings, rivalling, he would have us believe, those of the *Mimosa pudica*, must, it seems, be carefully considered, before any legislation shall be applied to them. Little must be said, nothing must be done, which can grate harshly upon their sensibilities. As a class, then, they are to be absolved from those heavy responsibilities which weigh upon the educated and the learned. And those who, in the majority of instances, are only known to us as the very poorest specimens of therapeutic journeymen, venders and peddlers of that indescribable tribe of baleful nostrums which insidiously sap the public health and the public pocket,—these men, are not only to go unwhipped of justice, but we are begged not to raise even a voice of feeble protest against their unlawful usurpation of the domain of *materia medica*.

Mr. President, we hedge the theoretical education of medicine about with certain sanctions and solemnities. We require young men to perfect themselves in all the departments of that noble science, ere we permit them to receive a degree, or to go forth to the world as regular and accredited physicians. But in all large cities, as every gentleman who has practised therein knows, it is unusual for the physician to carry with him the drugs which he prescribes, because, by the operation of those laws of social progress which prompt to the subdivision of labor, a class of persons has arisen called "apothecaries," whose especial business it is to compound and dispense the prescrip-

tions of physicians. Conjointly with this duty, however, their stock in trade has been so amplified of late, by the introduction of *cigars, confectionery, and cosmetics*, as entirely to overshadow the department of drugs; so that the popular idea of an apothecary now-a-days, is that of a man who deals in a multitude of miscellaneous notions, and a few drugs.

Now, we insist, by the canons of the iatric art, that educated men shall alone prescribe drugs. We must so insist it, because the *materia medica* is the instrument of therapeutics; and yet we tacitly permit illiterate men, most of whom are more truly tobaccoists than apothecaries, to dispense drugs to our patients, without knowing the philosophy of those agencies,—ay, sir, too often unable to determine whether their quality is perfect, or unlearned in the laws of their chemical affinities. I will pretend to go further, and say that some, even, can not read intelligently a prescription, but guess and conjecture its meaning, according as they can understand the language of abbreviation. If they read it correctly, it is well; if they commit errors, the patient suffers, perhaps dies; the physician is blamed; the apothecary is acquitted of any *intentional* wrong by a coroner's jury; the kindly earth covers the fault, and the obloquy of the crime lies buried with its victim. So far, then, as the possible objections or dislikes of apothecaries are concerned, the lines that have been applied to other wrong-doers will well apply to them—

“What man ere felt the halter draw,
With good opinion of the law?”

And I repeat it, as a maxim of moral, no less than instituted law, that the man is guilty of fraud who takes any position of public service without possessing the qualifications necessary to a proper discharge of its duties.

Allow me to ask what is to be the result of a Convention like ours passing upon this Report, and finding it untimely and injudicious? I am speaking now of the spirit of the Report only, and not of the letter of legal instruction which it imparts in the Appendix. What is it but to admit that there are sources of danger to the health of communities, arising from the indiscriminate sale of poisons by apothecaries, and the insufficiency of their qualifications in compounding drugs, which we all recognize and deplore, and yet will not so much as attempt to remove, because of the risk we run of wounding their feelings, and the uncertainty of securing any amelioration? This doctrine, sir, if carried out in the practical operations of society, would close the door against the very inception of any moral or sanitary reform. We should stagnate first, and eventually become petrified mourners over human woes, instead of being living, executive men, doing all good things with a hearty will, and trusting to God for the ultimate ingathering of our harvest. Every gentleman in this assembly, whether lay or professional, must feel that the basis of human society lies in the recognition of the first law of nature, and that the protection of life, after all, must ever be the culminating point of human legislation. (Applause.)

But another subject invites our attention while discussing the

merits of this Report. It is that of the list of poisons furnished in the Appendix, and whose sale it is deemed expedient to restrict. My learned friend on the right has criticised this schedule as being in many senses imperfect. In his opinion, it does not cover all the poisonous substances contained in the *Materia Medica*. If by the term "poisonous substances," he means anything and everything capable of producing *dangerous* disturbances in the human economy, I entirely agree with him. No list of such substances, recruited simply from the *Pharmacopeia*, would be complete. We should have to descend into the department of alimentary agents, because, forsooth, what is one man's meat may be just as truly another man's poison, and pathological conditions of the system or even physiological antipathies may convert, *pro hac vice*, articles of diet usually deemed innocent, into agents of terrific and disastrous power. But the subject authorizes no such extreme construction of language as that, nor do I conceive that sanitary necessities require it. It is well enough understood by physicians what are the substances recognized as absolutely poisonous, and what those, that are only relatively so. Our purpose as a sanitary Convention is to urge a restriction upon the indiscriminate sale of those substances which all classes, learned or unlearned, recognize to be poisons. In this view of the case, the list is certainly ample enough. It includes all the *popular* poisons, besides many more which can offer no risk to the public, because the public are not so much as familiar with their names, and would not be likely to call for them.

Another point made by my learned friend against the proposition to enact laws requiring apothecaries to be thoroughly educated, was that we should be opposed by them. Opposed by them? I ask, Mr. President, if this is a danger before which a body like this should pause and tremble? We might as well be afraid that medical students would defiantly oppose us when we establish schools for their medical education and graduation. This is but the baseless fabric of a vision, and not a terrible lion; and I will engage that the announcement of a step taken by the Convention in this direction, will be followed by the approbation of all truly learned apothecaries, who will prove our most valuable auxiliaries.

Again, it is said that colleges of pharmacy are not numerous,—that they are limited to a few large cities, and that apothecaries may not find it convenient to apply to them for diplomas. Is this an excuse which deserves a moment's consideration at our hands? Are boards of pharmaceutic examiners to travel about the country for the accommodation of apothecaries? We cannot submit to the idea that any question of distance should stand as an obstacle in the path of their qualification. If the colleges of pharmacy are at a distance, this is a misfortune, in the sense of being an inconvenience; but miles or leagues should never be allowed to exonerate them from the necessity of thorough and systematic discipline in pharmacy. Do you doubt, sir, that the true professional character of apothecaries would be advanced by proving themselves to be skilled in the philosophy and the practice of their art? Would we not all prefer to send prescriptions to such men, to patronize them, in a word, and to recommend them to

others? Should not also the apothecary be sufficiently educated to be able to detect errors in prescriptions? Any one is liable, while writing in haste, on poor paper, by an uncertain light, or amid the thousand perplexities of medical practice, to make either a textual error, or, as happens more commonly, an illegible character. Now, on the correct interpretation of such words and symbols, the issue of life and death may hang, and it does appear to me that a moment's reflection upon this, will, must, decide affirmatively the necessity of educating apothecaries in the *Materia Medica*, up to as high a standard as physicians. I maintain, therefore, that the apothecary who is not competent to detect an error in a prescription, is not fit to compound it. He is simply working in the dark, and trusting to blind chance for success. When a physician *knowingly* patronizes such a man, he commits a great wrong upon himself, nor can he entirely exonerate his conscience from responsibility for the clumsy acts of his own agent. He is in some sense a *particeps criminis* in the error of the apothecary, and I believe that, even among the profession itself, there is a growing disposition to so regard it.

Certainly, there is a manifest inconsistency in keeping solemn watch over the departments of surgery, obstetrics, and the practice of therapeutics, while at the same time the natural instrument of all therapeutics, the *Materia Medica*, is left open, like some great common appurtenant, for all manner of creatures to range through and pasture upon. It is a reflection upon the character of the divine art, thus quietly to surrender the temple of nature into illiterate hands, instead of raising our voices and filling the broad concave of heaven with a cry of perpetual protest. I am truly surprised, therefore, that this Report should have been made the subject of so much criticism and animadversion. For my part, I am decidedly in favor of moving forward to the good work of reform. We have temporized enough,—more than enough, with this great crying evil, and the consequence is that we have been driven to the wall. I am ready to agree with my learned friend, that public opinion has often to be educated and advanced, before it can readily understand, appreciate, and sympathize with, the necessity of professional safeguards, and that much is looked upon as usurpation in the physician or lawyer which is more truly protection and safety for the citizen at large. But, sir, with a larger measure of faith, I am also of those who believe in working for *ultimate* good. I am disposed to put seed in the earth, under whatever professional sky I may stand, and although no harvest should follow, I shall still have the satisfaction of feeling that I labored with zeal to obtain one.

Therefore, I give my hand and my vote to any measure which can throw safeguards about human life; and more particularly in this connection do I wish to advance the progressive character of the medical profession, by amputating that poor caudal appendage of undisciplined and irresponsible apothecaries. (Applause.)

Dr. SAYRE, of New York. I appreciate the spirit of the remarks of the last gentleman, as every man in our profession must do. I am

as desirous as he that we should do something to a practical effect, if possible. We have no power, however, to control the legislative action upon the druggists of any of the States, but we can simply act by our moral influence. And the influence of such a body of men as is collected here, you, sir, know well must weigh very strongly with the legislature of every State; and the expression of opinion here must have its weight in the future action of all the legislatures. I have, therefore, prepared the following resolution:—

Resolved, That this Convention recommend the various State legislatures to pass such laws regulating the sale of poisonous drugs as in their wisdom may prove effectual in arresting the destruction of human life by the indiscriminate sale of those dangerous articles.

Mr. President: In order to give the gentleman who made the Report an opportunity to reply, I will withdraw that motion, for a few moments.

Dr. GUTHRIE. *Mr. President*: I am obliged to my friend Dr. Sayre, for his courtesy; and I shall make no apology to this Convention if I should trespass a little upon its time to reply to some of the arguments which have been set forth against the Report. I am not certain that I will not vote for that resolution, at a proper time. But I desired, before the resolution was offered, to say a few words which I could not as well say under that head. I also return my thanks to my friend on my right, who has so eloquently defended this Report. There were enunciations of truth which carried conviction to more than one mind.

I wish to pay my respects to my learned friend Dr. Jewell, and to take the time of the Convention to reply, in a few words, to what has been said.

We are told, Mr. President, that the objection to this law is simply that we cannot coerce legislatures. We do not expect to coerce legislatures. We come as a deliberative, scientific body, and recommend what we have been desirous to bring about ever since we have met to discuss these great questions. Have we obtained a law since this Convention was first organized? Have we made one step forward, of any importance, in the way of getting such laws as have been, from time to time, submitted to the Convention? If we have, some gentleman will please name them to me.

A MEMBER. Plenty of them.

Dr. GUTHRIE. Upon that subject, then, simply because we have not got what we might have got, and because legislation is difficult, we can make no attempt at obtaining a law! If you look over the Report carefully, you will see that Maine, New Hampshire, Vermont, Michigan, Wisconsin, Iowa, Missouri, Massachusetts, Ohio, and New York, and various other States in the Union, have legislated upon this very subject. But what has been the character of that legislation? If you will carefully peruse these laws, as given here, you will find that they have had reference simply to the registration, simply with a view of keeping tally of the evil done, and with no view of preventing the evil itself. I know what the apothecaries of the nation are, Mr. President; I have had a better opportunity to know them than most

gentlemen who belong to the profession, and, while I acknowledge that there is ignorance, that there is a want of capacity, that as a profession — if I may name them as such — they are not what they ought to be, yet I take pleasure in saying that there is a Pharmaceutical Association in the United States, comprising over five hundred of the best men in the country, who are laboring there, as we here, in the cause of Medicine. Shall we say to them, “Poor devils, we don’t want you?” That is the spirit of what has been said here. Shall we say, “We will offer you no opportunity to come out from oil, and glass, and patent-medicine, and become really a branch of the profession of medicine?”

The law proposes, not that no one shall be allowed to sell glass, and cigars, and all that sort of things, as almost all of them do now; but that, when one comes to deal with that which affects life and health most closely, — with the most potent poison, — he shall have some guarantee of his character, he shall have something upon which to base his reputation of an apothecary. And to that end we ask that a step forward shall be taken by the different legislatures, and that they shall require that an apothecary shall be a graduate of the College of Pharmacy. We have one such college in Boston. And I regret, very much, and I think it was an error, that the College of Pharmacy of Boston, as well as the College of Pharmacy of New York, were not asked to send delegates to this very Convention; because this is one of the questions which they are competent to discuss, and in which we could have been enlightened by their knowledge and skill. They were invited at New York, but not in Philadelphia or Baltimore. I say I regret this; because you have, in Boston, apothecaries competent to teach the gentlemen of this or any body what are the dangers arising from the sale of poison, because they are daily and hourly in contact with the practical operation of the matter. We ask, then, you shall protect the legitimate apothecary, — the man who desires to lay aside glass, and oil, and cigars, and patent medicines, and make himself a professional man. Shall we extend a helping hand to them? Shall we recommend to the different legislatures to do something to elevate this class of men, so much derided by the medical profession?

Next, the graduates of a College of Pharmacy have to pass an examination, and to have their competency certified by the officers thereof; and before any one can become a member of the American Pharmaceutical Association, he must receive the recommendation of three members. Thus they may gain authority for dispensing this class of poisons. Then, where neither of these modes of qualification are practicable, — as is the case in our rural districts, the proposed law requires the certificate of two respectable practitioners of medicine, — and that is as near as we can come to accomplish the object sought, — to make one step forward in the progress of elevating the apothecary in the rural districts. If we could pass a law, throughout the United States to-day, that should carry into effect this first requisition, it would, in addition be a stimulant to every incipient apothecary, which would induce him to prepare himself so as to stand up at the head of

his profession. We desire that the frequently recurring cases of poison from carelessness and accident shall be swept from our health-bills and sanitary reports. And we shall never do anything that shall take the sale of poison out of the hands of village grocers, and from shops where all other goods are sold, until we legislate for the apothecary himself, and make a distinction between him and the man who sells paints and dye-stuffs. New York has a law which requires every man in the State, who seeks to become an apothecary, to submit to an examination; but the phraseology of the law is such that it has remained a dead letter, and is utterly inoperative and void. I look upon the present proposition as the only means by which to give the apothecaries a ladder to rise to the position they are entitled to occupy, as dealers in these dangerous and often misused drugs.

Dr. Griscom speaks of State laws. We ask of the States nothing more than they have been doing. We only ask that the laws shall be uniform. For instance; in New York, a person unable to obtain the poison he wants, has only to cross to New Jersey, and under a law entirely different to get what he seeks. In Pennsylvania it is still different. We seek a uniform law only, which shall bear alike in all the States.

With regard to this list, I have only to say that I have not at any time, supposed that the list of poisons as laid down here was at all complete, or that it could not be amended and improved. I submitted the list to some of our best apothecaries, some of whom proposed additions, and some of whom would have struck out certain of the poisons named; and I made it a medium law, to which, without exception, they have referred as one that could be made effective, and in which they would acquiesce.

They say that all the laws now existing require the certificate of a regular physician; and there is the stumbling-block at which these laws have all failed. Will anybody tell me who is a regular physician in the United States? Dr. Griscom reminds us how easy it is to get a certificate. Cannot anybody get a prescription? And hence, if you put in this clause concerning the regular physician, you set the apothecary at sea, and he has no law by which he can be controlled. He does not know, half the time, who the physician is, and has not, half the time, any means of verifying what he may know. So that legislation of this kind meets with divers objections.

We ask the States to do just one thing more than they have done, and that is, simply to protect the apothecary in his legitimate business, so far as they can, and, at the same time, to make the law uniform, and to do nothing more than they are attempting to do to protect the State.

Now, in Philadelphia, the apothecaries complain of the law, that it is indefinite; in New York they complain of the same thing. In Massachusetts, the statute provides "that any person selling arsenic, strychnine, corrosive sublimate, or prussic acid, except upon the written prescription of a physician, shall keep a record of, first, the date; second, the article sold; third, its amount; and fourth, the name of the purchaser. Penalty not more than \$50.

Here is where my friend got the idea of penalty. There is no penalty

fixed in this law,—it is left blank. In Massachusetts it is \$50, in Philadelphia \$50, in New York, \$100. In Ohio, the penalty is not named; but the authorized sale is made punishable offence.

I will not detain the Convention by any more remarks upon the subject, but will close by saying that all the Committee hope for, is that we shall make something like progress.

Dr. SAYRE, of New York. I introduced my resolution for the purpose of progress and action. I am satisfied that this question has been so thoroughly discussed that every member here is convinced of the necessity of action; and, therefore, I renew my resolution, and I have no objection to the Secretary of the Convention being directed to furnish the various State Legislatures with copies of the Report, that they may adopt or modify, as they may see fit, not limiting the list to these poisons. But I think that if they will regulate the list of poisons by the counsel of educated men, there is no necessity of forwarding this list, at all: and I therefore move my first resolution.

Dr. STEVENS. I desire to say one word. My reflections lead me to this conclusion, Mr. President,—that, the more we attempt to go into particulars, in our proposition, the more difficulties we are likely to meet. If Dr. Sayre's resolution, and the other resolution, are limited simply to a recommendation, calling the attention of legislatures to this evil, and requesting them to act upon the subject in such a manner as to their wisdom shall seem most conducive to the attainment of the end in view, I think we shall then make a recommendation adapted to all climates and all circumstances; and when we do otherwise, we make a Procrustean bed. It will be objected to in many places where it is not practicable, and will not come into use. We should use our influence, to the utmost extent, to state the end in view, and not state the special means of attaining that end.

Dr. SAYRE. I thought that resolution covered the ground which Dr. Stevens desires.

Dr. STEVENS. I ask for the reading of the resolution.

The resolution was read, and the question being taken, was unanimously adopted.

Dr. SAYRE. I move that a copy of the resolution be addressed, by the Secretary of the Convention, to the Governors of the various States of the Union, and that, accompanying it, there be sent a copy of the present Report.

Dr. GRISCOM. Mr. President: I approve of that last resolution, with some alterations in the Report itself,—though not in the Report so much as in the Appendix. I strongly object, still,—in the same line of direction in which I objected before,—that the certificate of recommendation from two or more physicians is useless, as amounting to nothing whatever. It was suggested by the eloquent gentleman on my right, that any druggist could get a good certificate for a good cigar. It is useless to depend upon a certificate from individuals having no authority. I would suggest an amendment, to make the Appendix read thus:—

FORM OF LAW TO REGULATE THE SALE OF POISONS AND
DANGEROUS DRUGS.

SECTION 1. No person shall be allowed to sell or dispense any articles known as "*Poisons or dangerous Drugs*," except they shall hold the diploma or certificate of membership of a college of pharmacy, or the certificate of the American Pharmaceutical Association, certifying to their acquirements as apothecaries, and integrity as men, which diploma or certificate shall be exhibited in a conspicuous place in their stores. This act shall not be considered as applying to practitioners of medicine in selling or dispensing to their patients.

SECT. 2. The persons authorized to sell or dispense poisons or dangerous drugs, shall keep a Book of Registration, in which the name of the article and the quantity sold, and the name and sex of the purchaser shall be duly entered, and it shall not be lawful to sell or dispense the same to *minors* or persons of unsound mind.

SECT. 3. This act shall not be taken to apply to such as are engaged in the manufacture or wholesaling of any such articles, except when sold in small quantities to others beside the trade.

SECT. 4. All such articles shall be clearly and distinctly labelled with the name of each article, and such as are commonly used for the destruction of vermin shall also be labelled Poison, before leaving the hands of the apothecary.

SECT. 5. All persons offending against the provisions of this law, shall be subject to a penalty of \$ for each and every offence.

Dr. JONES, of Brooklyn, N. Y. I am informed, by my friend on the right, that the profession of medicine has been misconceived. In my mind, I had no idea, sir, that we were such an exalted set of beings, or that the apothecaries had gone down to that depth to which he has sunk them. I had almost come to the conclusion that we have no legitimate apothecaries. The remarks made by Dr. Griscom bring forcibly to my mind the necessity, at least in the State of New York, of the alteration which he suggests. Perhaps my friends are not aware that the profession of medicine, in the State of New York, is equal to that of the house-painter and the blacksmith. Anybody can practise medicine, and anybody practising medicine is called a physician, and is so considered by the law; so that anybody can give this certificate, and the druggists can obtain two names for a very small sum. I speak from knowledge, sir, from positive observation. I caused two bodies to be disinterred, last week, that were put under the sod for twenty-five cents a-piece. Foreigners coming into our State have only to go to the County Clerk's office, register their diplomas, and practise medicine. Two certificates of death emanated from such a source. When I investigated the matter, I found that the gentleman had not seen either body; and I learned, upon the coroner's inquest, that the price he charged was twenty-five cents. And he had done it often; and others are doing the same thing. And, therefore, I hope that Dr. Griscom's amendment, striking out the word "*physicians*," as far, at least, as the State of New York is concerned, will be adopted.

Dr. GUTHRIE.

I hope that the Convention will not adopt the amendment,—for this reason. The whole difficulty is here: if we were legislating for the city of Boston, or New York, or Philadelphia, it might all be very well; but gentlemen forget that we have a wide expanse of country where no such thing as a College of Pharmacy is known, and no one is within the reach of such an institution. Allow me to call back the attention of the Convention to one fact, that the masses of people, themselves, are the ones to be benefited or injured by the passage of such a law as this. If a man is to be able to get such certificates as my friend Jones has described, does this make the improper sale of poisons any less criminal? does it make it any easier than now? does it do any harm? Go into the interior of this State, into any of our small villages where there are a hundred or more inhabitants. If there is an apothecary there who has, on his counter, or on the side of his shop, the registration of two men certifying to his integrity of character and his capacity as apothecary, is he not likely to be more careful, and are not there two individuals of respectable character likely to be held accountable for the manner in which he does his duty? The other plan ignores the existence of the country, and confines the action to the cities. We must recollect that our action here is to affect the rural portion of the country; and this resolution, as originally marked out, carries this list merely as a suggestive list, and this law as a suggestive law, not to be passed, necessarily, as here, but merely suggesting what shall be the limited number of men who shall sell these poisons. How is it in the South? You will find there, all the dry-goods merchant keeping this class of articles,—at least, almost every dry-goods merchant. Go into the principal part of the City of New York, and you will find that they keep arsenic on the same shelf with soda, and everything of the kind. Let us pass a resolution which shall call the attention of the public to this very fact. And, as Dr. Griscom has remarked, it will bring this subject before the public mind. Let us, then, send out this list of poisons, and let it be carried to each Governor, and from the Governor to the Legislature; and it will do thus much, if nothing more,—it will suggest to the Legislature that there are other things, beside arsenic, and strychnine, which will kill people;—if they take them: and let them add or strike out such as they will. The argument in favor of the thing is, that it does not do any harm, it does not make the matter any worse; it does not ask the Legislature to do a thing which, if done by them, will create any trouble. Apothecaries, to whom I have submitted this, say, that if you give them anything like an opportunity of restricting to legitimate apothecaries the sale of these articles, they are willing to keep a register, and to be governed by this law, which compels the apothecary to know something before he can act in this capacity.

Dr. SAYRE. The only objection to sending this will be the influence it will have upon the various States. It will be almost like instructing them. They suppose we are satisfied with this law. I am somewhat in doubt about sending it at all. I am not sure but they will take this as *prima facie* evidence that we are contented with it, or

we would not send it: and I am hardly contented with this law, as suggested here.

I propose to strike out the list of articles, and to say, simply, "*Any* articles known as 'poisons or dangerous drugs,' except they shall hold the diploma or certificate of membership of a college of pharmacy, or the certificate of the American Pharmaceutical Association, or the certificate of two or more physicians known to be of good standing by the health officer or other local authority in the town where they reside," &c.

As to getting two certificates from physicians, — anybody can practise medicine in New York. Put "M. D." at the end of your name, and practise and sue for your bill: the only remedy is that the patient can sue you back again if you kill him. The bigger dog the doctor is, the more he is respected.

I don't know why we should not take off the Appendix entirely, and send the Report, — not as a specimen, — and let the States pass the laws as they see fit.

Dr. GUTHRIE.—Does Dr. Sayre propose to strike out the Appendix? I have had some experience in the country; and my experience is that the country practitioners are more respectable men, — taking the same number together, — than those of the city. And they are less likely to give such certificates to irresponsible medical men in the country, than in the city. A man in a village is known individually, and upon his merit, and is not likely improperly to give a certificate of that kind which will hold him up as responsible to his neighbors. And if the gentleman insists upon striking out the recommendations of the law, and leaving simply the Report, then I would move you, as mere matter of good taste, that the whole thing be passed over, by laying it upon the table. Because, every State almost, has a law, — some of them naming one or two articles, some three or four, some a dozen. Some have laws not at all operative. And the very object of making the list was to combine the important articles, and give the States a basis for action.

Dr. BIGELOW (having resigned the Chair to the Vice-President). Mr. President: I cannot help soliciting the attention of the Convention for a moment, to a circumstance which, I think, they have wholly overlooked. The danger in this question of selling poisons, is not so much from the ignorance of apothecaries as from the want of principle in some of them. We are not so much in danger, in the world at large, from the fools, as we are from the rogues. It is well known that any person wishing to perpetrate any medical atrocity, can find a man to answer his purpose in some profession or other. What is done by a person wishing to procure an abortion? He does not go to a blunderer, who can give him no assistance; he goes to an expert, a man who has done the thing many times, and knows how to do it quickly and surely. And precisely so in the case of poisons. If a man desires a fatal dose of arsenic, to kill his neighbor or his wife, he does not go to an ignoramus, who does not know arsenic from ipecacuanha, he goes to an expert, to a man without conscience, a man who, for a

ten-dollar bill, will sell him arsenic enough to kill all the alleged rats in the town where he lives. And I very much fear that the circulation of this Report, though it will do some good, and though I should hold up my hand, upon all occasions, for the thorough and effectual education of apothecaries, will not reach the evil for which it is intended.

Dr. JEWELL. I do not wish this Convention to understand that I have a single objection to offer against educating druggists properly. I am a friend to education, and hope I ever shall be. Nor do I believe that our druggists and apothecaries are uneducated men. No, sir, no class of merchants in the community are entitled to greater credit than they for the improvements made in their business; the mode of conducting it, as well as the progress they are making in the science of pharmacy. They have their colleges of pharmacy, and their pharmaceutical associations, and their journals of pharmacy, and it is only to look into the character of these institutions and examine their results, in order to test the intelligence and learning of our druggists.

But, sir, I say again, that the evils pointed out in the Report are not to be reached by legislative enactments. How often has the attempt been made to restrain the sale of intoxicating liquors by legislation,—a poison far more deadly and destructive to mankind at large than any of our drugs,—and as often it has proved a failure. So it has been whenever laws have been passed restricting the sale of poisonous drugs. Sir, it is impossible by legislative action to prevent men drinking rum. In spite of all law they will have the vile stuff to gratify the desire, when and where, and as often and as much as they please. Hence I take the ground that if a man is determined to destroy his life with a poison, he will accomplish his purpose, no matter how stringent the law may be, forbidding the sale of that poison.

Again, sir, both wholesale and retail druggists are in the habit of selling poisonous drugs in those States where laws have been made to provide against it. In these States, the law is almost a dead letter, and it is impossible to construct a law to meet the emergency.

In Pennsylvania, the law requires that they shall be sold “only to adults.” Is that adhered to? By no means. “Only upon the prescription of a physician.” Is that law adhered to? No, sir. Our most respectable druggists will sell poisons to persons under age. I know nothing by experience of the result of laws restricting the sale of poisonous drugs in the State of New York, but I undertake to say that the law is a nullity there also, and in every other State where such a law exists. I only wish to contend that we cannot reach the object by legislative enactment. I think it better that the subject would be confined to the medical profession. We are not a medical body. The American Medical Association has taken this question up in full, and has recommended, I believe, to all respectable physicians, not to patronize incompetent druggists, or any other class of men who have taken up the sale of drugs, but to patronize those only who are regularly educated druggists. And in Philadelphia, the physicians select intelligent and well-educated druggists; and I believe that in

other large cities the physicians are alike careful to whom they send their prescriptions. I believe this the only way in which we can reach the evil. I have not a single objection to this Report going before the legislatures, and let it go before the public, and it will do no harm; but you cannot effect the object by that means alone.

There is another question which has suggested itself to me, in the discussion of this subject, and that is, whether we are not going a little beyond our province as a sanitary Convention, when we touch a subject of this kind, interfering with men who are carrying on a legitimate business, and instructing them what they shall do, — a dictation which, in my judgment, should not come from a Convention asking for quarantine reform, and for the establishment of sanitary laws to prevent disease.

Dr. SAUNDERS, of New York. I must say that I cordially agree with the remarks of Dr. Jewell, of Philadelphia, and, having had some practice as a lawyer, for forty-five years, I ought to have some knowledge in reference to the effect of the passage of laws of this description. I agree with Dr. Jewell, that it is impossible to pass laws restricting men from dealing in a particular class of poisons. Supposing a man is in the quack-medicine business, and chooses to put up these very articles in the form of quack-medicines, how is this law to operate upon him? He cannot be restricted. The great difficulty, it strikes me, is this: that when you descend into particulars, you have to continue your particulars till there will be no end of them; and when you once commence this, you must continue, from year to year, suggesting and recommending things forever. I merely arose to make this suggestion as a matter which might, perhaps, be considered by some other gentlemen.

Dr. GUERNSEY, of New Jersey. It appears to me, Mr. President, that this Convention has been convened for the purpose of doing good in anything that relates to sanitary matters, — the preservation of human life, — and that it is our province to recommend to the legislatures who have it in their power, to pass laws to assist us in every way by which we may attain so desirable an end, whether it be in the matter of the cow-disease, or any other matter connected with the subject of life and health.

This Report, as I understand it, contains something which pertains to the medical profession, as well as to the dispensers of our prescriptions. The question also, as I understand, relates to the inquiry, — Who are physicians? And there, I think, we will find the great difficulty about which we are contending. In New York, — and I do not know but that it is the same in all large cities, — we have any one a physician who chooses to put his sign out and call himself "Doctor." He has the right to give a certificate of death, and to write prescriptions. If one of his prescriptions be not written correctly, he is responsible; but he can hide the blunder by his certificate, and the law cannot touch him. Now I think if we can bring this matter before the legislatures, in its true light, they will listen to us. I regard this Convention as one of more importance than any other which has been held by medical men in this country; and I speak for the profession,

when I say that we must elevate the standard of medical learning. We do not want to associate with those who do not understand the law of life, or with a man who hardly knows the difference between spirit camphor and tincture of opium. I have written many a prescription which I have been afraid to trust the druggist to put up until I have been with the patient, and stood over the apothecary to see that he did prepare it properly. And that is the experience of every medical man on this floor, and I know it.

I have taken great interest in this subject, although I have not had time to read the Report since it was, this morning, deferred till tomorrow, for consideration; but the last part of it I consider most important, and recommend it, most heartily, for the consideration of those whose duty it is to defend us as well as the community.

The question being upon amendment.

Dr. GUTHRIE. I move, as a substitute for that amendment, the following, as an addition to the first resolution: "and that the form recommended by the Committee on Poisons be furnished the governors of the States as suggestive of the enactment likely to prove effectual."

Upon motion, Dr. Sayre's resolution was laid upon the table.

The question recurred upon Dr. Griscom's amendments to the Appendix.

A motion was made to lay the whole subject upon the table, which was lost.

Dr. JEWELL. There are many States where there is no college of pharmacy, and in those States the amendment would cut off the druggists entirely from the privilege of selling. To require men in the Western States to come to the Eastern States where there are colleges, to obtain a diploma, is not practicable. I am opposed to the whole matter of instruction, sir; but I go with the majority in sanctioning their action.

Dr. GUTHRIE. I would reply to Dr. Jewell, that the taking out of the list of poisons, in my mind, stultifies the whole Report. If we do not recommend this, I think we should recommend nothing at all. I should much prefer that the Convention should lay the Report upon the table and not print it at all, than to strike out the list of poisons. And, if any deference at all is to be paid to my wish, it would be that if the list is not to be recommended, the Convention should lay the whole subject upon the table, and not print the Report in the proceedings of the Convention at all.

Hon. MOSES KIMBALL, of Massachusetts. If this were strictly a medical matter, I certainly should not wish to interfere; but, as a non-professional, — and this being a subject in which non-professionals are as much interested as the doctors, — I trust I shall be excused if I suggest my views upon the question. I think the last remark of the gentleman who reported the bill has been the most judicious of any he has uttered. He finds, after discussion, that the whole subject is impracticable, so far as regards going to the legislature to ask of them a

law; and he tells us he would prefer that it should be laid upon the table, and sleep the sleep of the righteous, rather than that the Report should be mutilated. I believe he is right; because I believe it is impossible to get through any legislature in this Union such a bill as gentlemen desire, and as would be effective and operative for what is wanted. We have had the matter discussed here by medical gentlemen, and no two can agree as to how the end should be accomplished. We can do very well for a few cities, where there are cultivated apothecaries,—for the greater part of the Union, it is wholly ineffective. It is provided that apothecaries shall not sell certain poisons, but they may sell pounds of them in combination, as patent medicines, or upon the recommendation of any physician, who may be competent or otherwise,—who may be a female physician; for we have female professors allowed in this city.

My experience as a legislator is, that you could not get a law passed in any State of the Union, that would not be open enough to drive an ox-team through. We have laws now, in the different States, to prevent these sales; and what do they amount to? They are dead-letters, everywhere. Nobody puts them in force, and to attempt to put them in force would be found fruitless. It is but a few months since a poison was sold in Hanover Street, in Boston, by a young man, to another young man; taken down to Weymouth, as it is said, and a young lady poisoned. The party accused, now lies in jail awaiting his trial for the poisoning. Yet there is no prosecution for the sale, and no probability that any notice will be taken of it.

It is proposed to send this law to the governors. It will be received, and it will go into the car-load of documents which come to them each year. But suppose they do mention it in the message to the legislature, and the legislature takes up the subject, and a committee is appointed; what would the committee be composed of? You all know what legislators are composed of. They are not, generally, great men. They are mostly men of the working classes, without scientific knowledge. There may be a doctor, without business, who can make more money in the legislature than by his daily practice; there may be an apothecary or two, and they would most likely be upon the committee, and, just as surely as a report should be made of a bill likely to trouble the apothecaries, the lobby would be set at work to procure the passage of a law which would tolerate the sale of all manner of nostrums. In fact, I think if you go to the legislatures you will get much more than you bargain for or desire. We are glad to see the Report; I think it does the Committee great credit for its research, and for calling our attention to the facts. But I do not believe that anything useful can be accomplished by this recommendation to the legislatures. I therefore, to test the sense of the meeting, move that the whole subject be indefinitely postponed.

Dr. GUERNSEY moved to adjourn to 10, A. M., of Friday.

Lost.

The question being on Mr. Kimball's motion, it was carried, and the whole subject was indefinitely postponed.

On motion of Dr. JEWELL, the Convention adjourned to 10, A. M., of Friday, June 15.

SECOND DAY.

FRIDAY, June 15.

The Convention was called to order, by the President, at 10 o'clock.

The Secretary read the journal of the preceding session, and his minutes were approved.

Dr. Arnold, at the request of the President, then took the chair, and stated that the first business in order was the consideration of the Report on External Hygiene.

Dr. Jewell moved that the Report be adopted, and that the Report, with the Resolutions, be published with the proceedings of the Convention.

Dr. Harris, of New York, called attention to certain deficiencies in the Report, as printed, owing to the fact that a portion of the manuscript was lost while in the hands of the printers. He expressed the wish that the Report should be made complete, when printed, in the proceedings, and, by general consent, the Committee were authorized to complete it by the insertion of the missing pages.

Gen. WETMORE. I regard the subject of this report, Mr. President, as one of the most important that can occupy the attention of the Convention. The gentleman who moved its adoption did not assign any reason why his motion should prevail, and perhaps it was unnecessary to do so; but I will venture to occupy your time for a moment with two or three suggestions.

In the few remarks which I had the honor to make yesterday, I commented on the advantages which had grown out of the action of the preceding Convention, and I cannot be content to give my silent assent to the form in which the same subject is now presented. I think it is due to the Committee who prepared this Report that it should be fully discussed, and equally due to the Convention itself, that the Report should go forth to the world with the deliberate sanction of this body.

The question of Quarantine is but a branch of the one great system of Sanitary Reform in this country. We are far behind other countries not only in regard to our knowledge, but also in regard to our action, on the question of Sanitary Reform. Why, sir, what subject can better occupy the attention of public men and public bodies

than that which directly affects health and human life? Thirty years ago this subject occupied the attention of the most acute minds of Europe. It has continued to do so till the present day in France, and it has engaged public attention in England for nearly the same period; and those countries, far in advance of us as they are in a practical knowledge of the question, are still occupied in ascertaining new facts, in developing new theories, and in establishing new principles for carrying forward these great and beneficent objects of reform in the government of human life. In England, at this moment, its principal city being far in advance of the sanitary condition of the principal city on this continent, millions are being expended for the purpose of improving the public health of London. Very large sums have recently been appropriated by the government of England to improve the drainage of that city. Now, sir, the principle of drainage, in its operation upon the health of the inhabitants of populous cities, and as affecting the duration of human life, is yet in its infancy in this country; we scarcely know anything about it as a scientific principle in the management of cities. New York,—the city where I make my home, and of which I am one of the representatives upon this floor,—New York is behind almost every other city in the practical operation of this principle of drainage, which lies at the very source of many of the most serious evils which afflict populous communities. In the city of London the ratio of mortality is one to forty-five, annually; in New York it is one to thirty-six; a vast disparity, and a most alarming evil. The city of London is placed by nature in a situation where its health might naturally be affected by surrounding circumstances,—but the hand of science has brought the remedy. In New York, nature has exhausted all her resources in developing a local position and local accessories which should tend to make that city the most healthy in the world; yet how far it is behind the cities of Europe in regard to health, simply because its authorities have neglected to apply the discoveries of science to the practical purposes of human government.

This is not a local, but a national question; and when I speak of one city, I mention it only as a type of the rest. Instead of shutting our eyes to the experience and exertions of scientific men of other countries, we ought to stand here and admire and applaud the philanthropists of Europe, who have led this crusade against disease and death for our benefit as well as their own. There are men in England who have devoted the better part of their lives to the elucidation of the mysteries of this theory of sanitary government. In Boston, a place which commands my warmest regard, for so many things which make it a proud and noble city, the government is far in advance of many others of our principal cities. I have seen so much to admire here, sir, in my brief visit, that I scarcely know where to begin in expressing my commendation of the excellence of its government, as well as of many other things, which it would not be proper for me to speak here, and at this time. (Applause.)

In regard to quarantine, as a branch of the great system of sanitary government,—the external branch of it,—we have been misled for

ages as to what was necessary and proper to be done in establishing and maintaining efficient barriers against the introduction of infectious diseases. All the theories of the past have been not only erroneous, but injurious. All our commercial cities ought to be grateful for what this Convention has already done, in its previous sessions; and in adopting the report which lies before you, acknowledgments are justly due to the intelligent gentlemen of the Committee for what they have done towards illustrating the principles of this theory, and thus giving us the opportunity and the privilege of stamping our action upon a series of intelligent, judicious, and authentic propositions, which, under the guiding hand of Providence, must result in great good not only to the present, but, eminently so, to the future of this country.

The commercial cities are mainly interested in this branch of the question. I hope that the delegates from the interior States, which do not reach the ocean, will bear with us while we treat this branch of the subject, because it harmonizes thoroughly and effectually with the whole system. A perfect organization for the proper management of health and the prolongation of life covers broad ground. The interior and the exterior States are all interested in the question. But when we discuss what relates to quarantine simply, we must confine it to its operation upon the seaboard. Every State that has its seaport upon the Atlantic or the Gulf of Mexico, open at all seasons to the commerce of the tropics, is deeply and especially interested in this subject; and you, sir, [the First Vice-President,] who so honorably represent here a southern city and your constituents, are as much interested as we are who represent northern communities. We have much to learn from each other in regard to the intercourse between the North and the South, and permit me to say that, it is always well for us to counsel together. Until recently we had been placed under restrictive regulations, which were both unnecessary and oppressive, not only to all the rights of the citizen, but to the great interests of commerce. In the noble bay of that city where I live, in the summer months of past years, you could have found scores,—perhaps I might be justified in saying, sometimes, hundreds,—of vessels unnecessarily retained, with crowds of men, women, and children, imprisoned between the sweltering decks, disease and death rife among them, without the power on the part of any public functionary to give them permission to leave the infected atmosphere, and enjoy the benefit of the free air of the country, and the society of their friends. This was one of the great wrongs which grew out of an erroneous system of quarantine, which confined the sick within the circle of the prevailing infection, and thus increased and perpetuated the very evil it was intended to remedy.

Sir, all this has been wrong in theory, doubly wrong in practice; we have done much to correct it; and when this Report shall have been adopted as the foundation of a system methodically and carefully prepared for the general government of the question throughout the country, then will both commerce and humanity be enfranchised and set at liberty from these wretched barriers against personal communi-

cation, and these oppressions upon commerce, which have come down to us from the dark ages;—literally, *from the dark ages*, because I defy any man, who studies the history of this question, to derive any light whatever in regard to the objects which governed the authorities of Europe, who first adopted these restrictions and transmitted them to us. I therefore sincerely hope that this Report will be adopted, and go forth to the world as the original action of this body, so that when its beneficial operation shall come to be realized, the proper credit may be given to those who have accomplished this triumph of truth over error.

Dr. THOMPSON, of Ohio. I so deeply sympathize with the gentleman who has just addressed the Convention on this subject, that I cannot forbear making mention of my feelings. Though residing in the interior, and away from the seaboard, I feel an interest and a sympathy in this subject which compel me to speak on the present occasion.

There are elements entering into the unhealthiness of the city of New York which probably may not be generally understood. I refer to a disease which we know well at the West, and which I know to be carried to the East, because of having investigated the facts. It is a disease which is called by farmers "the trembles," among animals, and the "milk sickness," when it exists among human beings. This disease is transmissible from one end of the earth to the other. As far as commerce can carry the milk, butter, and cheese which are produced from the animals, so far may disease and death be carried. Animals are carried from Illinois and Ohio, and other western States, having the disease upon them, and sold in the cattle markets of New York. Sometimes, on arriving at Albany, the cattle are found too sick to go further, and they are sold to the butchers; and as there are bad men among butchers as well as among other classes of men, we know what is the destination of that beef. I do know, that from the western States beef has been carried to market which has produced lamentable results in Louisville, Chicago, and elsewhere; and I do know that cattle dealers have sold animals *in transitu*, upon the western waters of America, so sick of the disease as to require to be hustled off to the butcher's shop on a dray; sold for a merely nominal sum, because the owner knew they were dying.

I mention this as an element likely to enter into the unhealthiness of cities, especially of New York, which bears the reproach—I say it with regret—of being the most unhealthy city in the world. I always sympathize with the physicians of New York when I hear it said out West, as it often is said, that they are not so successful in the treatment of the disease as we are. We understand this disease, and are able to treat it with success; and I defy any man in the profession to treat successfully unless he knows it thoroughly.

I trust I shall not be considered as having intruded these remarks on the Convention unnecessarily. I have spoken with a view simply to rescue a great city from the opprobrium of furnishing greater bills of mortality than any other city in the world, and to save the citizens from the power of the diseases that are brought to their doors.

Dr. GRISCOM called for the reading of the resolutions embodied in the Report, and they were read by the Secretary.

Dr. GRISCOM. Now, Mr. Chairman, I wish to make one or two criticisms upon the language of this Report. So far as the resolutions go, I cordially agree with them, and hope they will be adopted, and that the measures proposed will be carried out fully; but I find one or two sentences, which seem to me to convey an erroneous impression, and I think that, on the suggestion, the Committee will be willing to modify them. At the bottom of page six is this sentence: "The General Board of Health, instituted by an act of Parliament in 1848, persisted in repeated efforts against the quarantine regulations, for plague, cholera, and yellow fever,—diseases alike in essence, modified by climate or other circumstances of locality, and subject to the same means of control," &c. I should like to know what the Committee mean by that phrase, "alike in essence?" I cannot understand it, sir. If they mean "alike in essence" pathologically, it is opposed to my experience in regard to those diseases; if anything else is meant, the meaning is not stated; and I should like to learn precisely what is intended to be understood by that language.

Again, on page twenty-nine, under the second declaration, it is said that "the only diseases at present known, against the introduction of which general quarantine regulations should be enforced, are plague, yellow fever, and cholera." Now it is universally understood that typhus fever and smallpox are also diseases requiring quarantine regulation. I think these two diseases should be included with "plague, yellow fever, and cholera" in that class. I hope the Committee will consent to some modification of the Report, to satisfy the general impression of the profession in regard to this matter.

Dr. A. N. BELL, (Chairman of the Committee.) In reference to the first exception taken to the Report, I will state, that it was not the object of the Committee to take up the subject of quarantine and quarantine diseases in relation to pathology, but in relation to local causes—these being on general principles alike—in the propagation of the diseases to which quarantine regulations should generally apply. There are many diseases alike in this respect, though not so pathologically. In the same paragraph, the Committee say "that protection from pestilential diseases does not consist in quarantine regulations, but in *internal sanitary measures*," that is to say, in measures that have for their object the suppression and prevention of conditions without which the diseases regarded as quarantinable would not exist. The Committee consider that these conditions apply generally to those diseases, and are equally applicable to them all.

The next exception is taken to a declaration under the "Code of Marine Hygiene." In that, the same idea is carried out, that the regulations applying to these three diseases may be of the same character,—applying to them all alike. In the following period, "In addition to these," &c. there are specific regulations applied to typhus and smallpox, which are unnecessary for the other three. That is the

distinction made through the whole Report, that typhus fever and smallpox require special regulations.

Dr. GRISCOM. Undoubtedly the sense intended is correct, but the language is very different, and I hope the Committee will modify the language so as to express their own meaning. We should not allow this Report to go forth subject to so plain a criticism as I have made upon it, which will certainly be made by medical men. If they will modify the language, I am perfectly willing to let the matter rest without further motion.

Dr. JEWELL. I think the Committee are agreed to strike out the words "alike in essence," and insert the words, "smallpox and typhus fever," as has been suggested.

Dr. BELL. The Committee readily accede to the criticism of the language on page six, and are willing that the words to which exception is taken should be stricken out, as they are not essential to the Report. In regard to that in reference to page twenty-nine, I think the explanation, that the general regulations are not applicable to typhus fever and smallpox, will be admitted.

Dr. LA ROCHE moved to amend the paragraph on page six, by striking out the words "diseases alike in essence, modified by climate or other circumstances of locality, and subject to the same means of control," and inserting the words, "diseases subject to analogous means of control."

Gen. MATHER, of New York. If I understand the matter, the resolutions before this body are precisely those printed in this Report, as they now stand.

THE PRESIDENT. That is so.

Gen. MATHER. I do not rise for the purpose of discussing this Report, or the merits or objects of these resolutions; but I do rise, sir, to call the attention of this Convention to the peculiar frame of these resolutions. It does seem to me, while I most cordially approve of the object named therein, that these resolutions are so framed as to be calculated to defeat the very object and end aimed at. That may seem, at first, rather a strange proposition, but let us look at it a moment. The first resolution is a resolution of direction, specific in its nature, and restricted to a certain object and purpose, namely, "to negotiate with our National Government or Department of State, to secure,"—in what manner?—"by convention, or otherwise,"—now what?—"the national and international adoption of this code."

Now, sir, here is a matter, not only of national legislation proposed, but here is also a matter of grave diplomacy with foreign governments. Is it for a moment to be supposed that a thing precisely like this can be carried out, under these circumstances, at home or abroad? There is no discretion to be left to this Committee to dot an *i*, or to cross a *t*; but they are to be restricted to "this code."

The same objection lies, in substance, to the second resolution. The committee, whose appointment is there provided for, is to be empowered "to confer with the governments of their respective States, for the adoption of,"—what? Not of the chief principles of this code,—not of legislation calculated to secure the object and end aimed at

in this code, if it can be done in any equally practicable manner,—but it is, specifically, “this code.”

I believe, sir, I have accomplished all I rose for. I have no amendment to propose, because I do not wish to interfere with the work of this Committee; but I would suggest to the Committee, if they have not thought of it before, that they consider what language they would apply there to reach the end which they seek.

Dr. GRISCOM. I think that when a gentleman rises to address a Convention like this, with such suggestions of error in the resolutions before it, and would seem to have his mind burdened with some mode by which his views can be met, he should be at least frank enough to give us some idea of the language by which the object aimed at in these resolutions can be attained. If the Committee were to be bound, hand and foot, by the terms of these resolutions, to go for this code, and nothing more nor less, and if they could not give up a letter of it, though they lost everything, then, certainly, the language of the resolutions would be inappropriate, and improper to be adopted by this Convention, and no one would be willing to serve under such a resolution. But I do not apprehend that such is the design or limit of the resolution, in its language, even. If such a Committee should be in operation, and confer with the United States Government, and that government should proceed to invite the other nations of the earth to a conference, for the purpose of procuring the adoption of an international code of quarantine, certainly, that committee, appointed by this Convention and by the United States Government, would be at liberty to adopt so much of that code as that Quarantine Convention should be willing to adopt, without restricting themselves to this, in every letter.

I think there is but little force in the objection; and I think, if there is, the gentleman who has just addressed the house should at least present some modification of the language by which his views would be met.

Dr. ANDERSON, of Staten Island, in rising to speak upon the subject of these resolutions, said: I have no verbal criticism to make, nor any fault to find with the pathological distinctions in the Report itself. I have no objection to the resolutions, except so far as they may seem to imply an indorsement by this Convention of the code recommended. On looking over this code, or declaration of principles, I find much to which I am obliged to object. In the first place, after hearing the remarks of Gen. Wetmore, I supposed we were to go on one step further in the march of reform which was inaugurated at the last Convention, which met in New York,—a reform for which we are indebted to the resolution of Dr. Stevens; but, sir, I think that if we indorse all that I find in these declarations, we take a step backward. In making this remark, I refer more particularly to that portion of the Report on page 31, section 10, under the heading, “Measures relating to departure.” Instead of going forward in the march of progress, we return by this recommendation, I think, to the system which we now find existing on the shores of the Mediterranean; and if any American citizen has had occasion to leave any port on the Mediterranean, he has

learned, sadly to his inconvenience, of the measures adopted there by those despotic governments, which, as I understand this section, are now recommended for adoption here. I was myself detained in Naples five days, two years ago, owing to my not being acquainted with the sanitary regulations of that port. Knowing what the police regulations were, and that it was necessary to be on board the steamer half an hour before the time of departure, I got my passport viséd all right, as I supposed, and within twenty minutes of the time of departure, took a boat for the steamer. When I arrived there, I was met by a police officer, who said, "Where is your passport?" I gave it to him, "You have not got the visé of the health officer." "I did not know about that." "That is your misfortune." And there he stood at the gangway, refusing to allow me to go on board, and I had the mortification to stand there and see my friends sail, leaving me behind. The health officer had been on board and examined the passengers, and left a short time before I reached the vessel, and I had to remain in Naples five days. Now this appears to be the course recommended by these resolutions. It will be necessary, if this plan is adopted, to have a health officer appointed to visit every vessel departing from the port. This will never be submitted to. Why, sir, we are no longer going to submit to quarantine restrictions on vessels arriving. They exist on paper in New York, but we all know we have no quarantine detention there now. Gen. Wetmore, and every merchant of that city, has experienced the immense change which has taken place in this respect since the commencement of the present administration.

A few weeks since the steamer "Persia" arrived, having a case of smallpox on board, in the person of the ship's steward. The captain informed the Deputy Health officer of the fact, and also told him that the patient had been kept in a secluded part of the ship since the nature of his disease was discovered; and that the passengers, of whom there were a large number, were entirely unaware of the existence of the disease on board. The course pursued in this instance was very different from the former experience of that vessel under similar circumstances; and I contend, as the instance is not an exceptional one, that I am entirely justified in the remark I have made, that quarantine in New York is merely nominal, in comparison with former years. The steamer was not detained, but proceeded at once to her wharf, and her passengers were allowed to go on shore unvaccinated, unwashed, and unfumigated. The sick man was sent to the smallpox hospital on Blackwell's Island, and a physician from one of the city Dispensaries visited the ship and vaccinated such of the crew as presented no evidence of having had that operation performed. Now this, I think, was a judicious proceeding; and it has not been demonstrated that it was unsafe. How different it was from the former practice I need not state, for the notoriety of that practice is world-wide. My objection to the code here presented is, that, under it, the same abuses might be continued. It gives the same discretionary power, which, in unscrupulous hands, might lead to the same corrupt practices.

I want to say, that I think it is useless for the Convention to recom-

mend this declaration ; for our national government will never entertain the proposition.

Dr. GRISCOM. They certainly never will unless they are asked.

Dr. ORDRONAU. I believe it is generally acknowledged that the spirit of this Report, in its totality, is embodied in the resolutions ; and now, after the amendments proposed by Dr. Griseom, and so readily accepted by Dr. Bell, the Convention has come to vote upon the *ultima-ratio*, which is, the resolutions appended to the Report, embodying all the soul and spirit of what has gone before. Gen. Mather has taken an objection, in the nature, if you please, of a general or special traverse, to the first resolution, in that it laid an obligation upon the Convention to be holden under the advisement of this Committee, and the government, with other governments, to adopt this code, specifically, and no other ; which would be a limitation, of course, without right, since, there being no authority to ordain, there can be no obligation to obey. We can only recommend. A number of gentlemen who have examined this resolution, and whose organ, in one sense, I now am, have suggested to me an amendment, which is very brief, and yet, by giving a more indefinite character to the phraseology of the resolution, may make it more catholic in its spirit, and more acceptable to all nations. It is this : that in the last line of the resolution (the first) the provision " this " be stricken out, and the article " a " introduced, with the addition of the words, " based upon the principles hereinbefore set forth," — so that it shall read, " the national and international adoption of a code based upon the principles hereinbefore set forth," — allowing, of course, the Convention that shall sit to determine upon this subject, to apply those principles which are contained in this code, to interpret them and translate them into language of their own, which shall seem most fit to themselves. This amendment would require that a similar one should be made in the second resolution.

Mr. MATHER. Will the gentleman allow me to ask whether the insertion of the four words " of the general principles," before the words " of this code," in both resolutions, would not meet the objection ?

Dr. ORDRONAU. I feel great diffidence in differing from a gentleman older than myself, but I have an intuitive logical sense, which in this instance is assisted by Dr. La Roche, that my phraseology is the best, and therefore I must hold to it.

The amendment to the first resolution was accepted by the Committee, and the phraseology of the second was changed so that it should read, " for the adoption of such a code," and the resolutions were then adopted.

Dr. GRISCOM, from the Business Committee, reported the following resolutions : —

1. *Resolved*, That the Report of Dr. Guthrie, Chairman of the Committee on Poisons, &c., be published in the Transactions of this Convention, without the Appendix.

2. *Resolved*, That this Committee deem it inexpedient to recommend any action by this Convention on the subject of the disease known as "Pleuro-Pneumonia," said to be prevalent among cattle.

3. *Resolved*, That the Report on Civic Cleanliness be recommended to the Convention for adoption and publication in the Transactions, and that the Secretary be authorized to transmit a copy of the Report, and a separate copy of the Memorial appended thereto, to the authorities of every incorporated city in the United States.

4. *Resolved*. That the Report of Dr. SNOW on Registration be referred to the Convention for consideration, and recommended for adoption and publication in the Transactions of the Convention.

5. *Resolved*, That a Committee be appointed to take into consideration the expediency of a permanent organization of this Convention, to be called the "American Sanitary Association," to report at the next meeting; and, if favorable thereto, to present a plan of organization.

On motion of Dr. GRISCOM, it was

Voted, That the resolutions be taken up *seriatim*.

The first and second resolutions were then adopted.

The question then being on the adoption of the third resolution, in reference to the Report on Civic Cleanliness, Dr. GRISCOM said:—

This Report, a single copy of which was presented by myself yesterday morning, has now arrived, and is in the hands of the members of the Convention. I am happy to say that the Chairman of the Committee, who has drawn this admirable Report, arrived this morning, and is now in the Convention. I have the pleasure of introducing Lieut. E. L. VIELE.

Lieut. VIELE. Mr. President: In regard to the brief report which has been submitted by myself in behalf of this Committee on Civic Cleanliness, I have simply to say that the importance of the subject entitles it to the earnest consideration of the members of the Convention, and I hope that the Report will not go to the Publication Committee without first receiving attention. I have labored at it, sir, and I have come up to this Convention feeling very deeply the gravity and importance of the facts with regard to civic cleanliness which have come before my notice. I am satisfied, sir, that all the barriers of law and art that we may erect, for the purpose of enforcing a system of quarantine regulations, would be utterly useless unless we first, by cleaning our cities, prepare them against the invasion of disease. (Applause.) I am satisfied that sanitary science is more important than any other subject which can bring together so intelligent a body of men, and as a number of our large cities are represented here by their civil authorities, by the honorable executives of their several governments, I hope that they will bear back with them the force of the facts which have been presented, and which I trust will be added to by the individual experience of the different members of the Convention.

I wish, if there is any word in this Report which cannot be sub-

stantiated in the experience of every individual who has given any attention to the subject, that objections will be offered. I sincerely hope that the facts set forth may be added to *in extenso*, may be greatly multiplied, for it is by the multiplication of these facts that we secure the weapons with which, as reasoning men, we are to go forward and combat the error, and ignorance, and prejudice of the great mass of our fellow-citizens. Such is the ignorance on this matter, even among men otherwise intelligent, that it is almost impossible for stringent sanitary regulations to be carried out in the most elegant thoroughfares of our most splendid cities. If this is the case with the higher classes of the community, the men of wealth, who assume to be of superior intelligence, what can we expect from the mass of men, whose natural instincts, unassisted by education, have not led them to give any attention to this subject? Sir, we must first educate our men of intelligence in this matter, and then we can educate the masses, who may lack their intelligence. It is with that end in view that this Report has been drawn, and I hope that this Convention will not adjourn without some practical result; something that will tell, within twelve months, at the furthest. Let us begin now. We are here in this good city of Boston, on the eve of celebrating those great events which ushered in the dawn of a great political revolution. The action of this Convention ought to be looked upon in the future as the dawn of a greater moral revolution, the influence of which will be felt by all the generations that are to come after us, and to which a monument may well be erected, if we only take hold of the matter in that spirit of patriotism which the occasion demands. It is idle to talk, and to write reports, unless we individually determine that when we return to our homes we will insist upon it that this subject shall be investigated by the civil authorities, and that they shall report, that the people may know what dangers surround them, and then they will be determined that this utter filthiness of civic communities shall cease. Only in one or two instances where cities have become large, have these evils been developed; but we must remember that this is a growing country, that we are spreading so fast that there is scarcely time to prepare ourselves against the evils which accumulate so rapidly. We have only to look back a very few years to see insignificant villages and hamlets grown into large cities, almost ruined by the want of proper sanitary regulations. Thirty-five years ago, Mr. Webster, referring to the rapid increase of our population, exclaimed, "Our two millions are increased to twelve millions!" It seems but yesterday. Yet those twelve millions are now thirty-two millions. Think of it! And the great bulk of that increase is in our cities. How necessary is it, then, that we should prepare for that future, that is coming on so fast, that to-morrow might almost be regarded as to-day! We have no time to lose. These facts which have been collected should be amplified, and spread broadcast through the community.

I have no hesitation in saying that I consider this *the* subject of this Convention, and we ought not to separate without feeling ourselves individually responsible for the practical results to come out of it. (Applause.)

Dr. JEWELL. I indorse, as a sanitarian, every word that the author of this Report has said. I go further, and say what he only hinted at, that this is *the* Report of the Convention,—that in this Report are contained all the principles which should and which will guide this Sanitary Convention in the future. Though my idol in this matter has been Quarantine, I have never lost sight of the fact that the day would arrive when the sanitary question itself would become the great question of the day. But, sir, I have been anticipated by the intelligent reports which have been presented at the last and present Convention on internal hygiene. I did not look forward until years should elapse for the time to arrive when the Quarantine Convention would be ready to resolve itself into a Sanitary Convention. I had long felt that if I could only bring the question, in some shape or other, before the people, their eyes would be opened to the great importance of the subject, and they would, in the course of time, reach the great point which I conceive has been reached in the four years of our conventional meetings.

Sir, I have said that I have never lost sight of the great question of sanitary reform. As a medical man, I have always entertained the idea that the great mission of the medical profession of these United States, and of the world, is not to cure disease, but to prevent disease. (Applause.) And when we carry out the principles which the author of this Report has so intelligently laid down, we shall not have to combat with disease, but our attention will be directed to the removal of those causes that appertain to the introduction and the propagation of the various epidemic and endemic diseases of our country. That is the great question.

There are one or two points in this Report to which I wish particularly to call the attention of this Convention, though there is no time to go into particulars. The whole Report is before us. Let it be read,—let it be read attentively,—with the understanding that we are to circulate it. Let each delegate make up his mind, that when he returns to his home, he will circulate this Report among the members of the medical profession and among intelligent laymen, and not rest there, but endeavor to do what New York has done,—organize a Sanitary Convention in his city, not among the medical profession only, for this is not alone a medical question, but among the laymen of our cities, among those benevolent individuals who are always active in promoting the health and welfare of mankind. By adopting such a course we shall awaken the slumbering energies of municipal bodies to this question, and thus we shall enter, *in extenso*, upon the great question that is before us.

I said I wished to call the attention of the Convention particularly to one or two subjects, and they are as follows: the offal of our cities, the paving of our cities, and the sewage of our cities. Three great defects in the construction and management of our municipal regulations are contained in these three departments of hygiene. It is to this subject that I wish particularly to call the attention of the Convention. They are important matters, but they are not detailed in

full, for it was not necessary they should be. It was only necessary to direct attention to the great principles which I contend should be carried out minutely by those who take up these questions separately.

I will not detain the Convention further than to express the great pleasure I feel in knowing that I have started this movement, and that it is now in the hands of those who are ready to carry it forward to perfection. (Applause.)

Dr. BELL. Associated as I have been with the originator of this Convention, here assembled for the fourth time, who has seen the question of Quarantine, which he has said has been his idol, brought to a successful termination in his own hands, and to his own honor, and finding him so willing to resign it, and say, as he has said, that he will be one of the foremost in the agitation of the question of civic cleanliness, and knowing that there are persons here who could not sleep the first night in Boston, without going down into the abodes of poverty, and into the tenement-houses, to find how many children have been born and how many have died, and many other facts, and bring them all into detail for future use, — knowing these things, I say, I know something of the spirit of the sanitarians engaged in this movement, first originated by the gentleman who has just sat down.

It has been my humble part to be associated with him in recommending a code, not to be submitted to the port of Boston alone, or to any one city or number of cities, but to the universe, — a code of international hygiene, based on those principles which will bear equally on debarkation as on embarkation; for that selfish barbarism which has heretofore characterized our quarantine regulations, which has said to other countries, "You, with your diseases, cannot come here, while we reserve to ourselves the liberty of sending our diseases to you," has been destroyed by the adoption of this Report. These are the principles which are also embodied in the Report on Civic Cleanliness. Indeed, the two reports go together save only some few corrections, which I think others may suggest here, but in words which I hope will give greater force.

Dr. GUTHRIE. I rise to bear my testimony to the great importance of these sanitary efforts, and to suggest a change in the memorial, which I think will add to it more force. I make the suggestion simply upon this basis; and that I may be understood, I will suggest an alteration on page 41, in the "Form of Memorial." In the fifth line of that memorial, I move to strike out the word "petition," and substitute the word "recommend," so that it will read, "most respectfully recommend," etc. I do this, sir, because I feel that this Convention is a pioneer association; that we are manufacturing public opinion; we are not following in the track of what has been before, but we are leading public opinion, and calling public attention to matters of vital interest and importance to the health of the community. Therefore, when we go to cities to recommend to them the appointment of committees, we ought not to go as petitioners, but as a scientific body, *recommending* what we have discussed, and feel to be right and proper. I propose it simply on that ground, and would be happy if the chairman would accept that verbal alteration.

Lieut. VIELE. I do not accept the amendment. If I should *recommend* the gentleman to go to the dinner to-morrow, it would be a very different thing from *entreating* him to go. We do not *recommend*, we *beg* them, we *pray* them to do it.

Ald. CLAPP, of Boston. Mr. President: My name happens to be connected with this Report, as one of the Committee. I have had no opportunity to examine it, (through no fault of the chairman,) until within the last few minutes; but I wish to say that, for one, I rejoice to see it, and if the Convention will indulge me one moment, I will give them the reasons why.

About a year since, I chanced to be chosen as one of the aldermen of Boston, and I was placed upon its Committee on Drainage, and placed there as its chairman. The matter was then to me a new subject; but as I went into the study of it, it opened before me, and became very interesting. I found that it enlarged upon my hands, and my spring and summer reading, I might almost say, was exclusively upon that subject. The more I looked at it, the more, I must say, was I distressed at the condition of things which I found in our beloved city of Boston. A gentleman here has spoken of this "cleanly" city of Boston. In olden times it was so, but gentlemen will bear in mind that the old city of Boston is one thing, and the new city of Boston is another thing. The old city of Boston occupies one square mile, the new city of Boston occupies another square mile, and that has been reclaimed from the tidewater, and it has only been filled up some twelve, thirteen, fourteen, fifteen, or sixteen feet above low tide; consequently, as gentlemen may see, the common sewers have been built to go almost at a dead level, and the low tide finds its way into them. Well, what is the consequence? The consequence is the most disastrous of anything that can exist on the face of the earth; or, at least, if there is anything more disastrous, I have yet to learn what it is. It is for that reason that I have wished that this question should be brought home, not only to this Convention, but to all conventions, and all communities which have at heart the welfare and prosperity of the people. (Applause.)

In looking at this subject in the reports abroad, I find that the very first minds of the English government have gone into it, and gone into it thoroughly. They have taken it up in every possible way, and we have the results of their investigations presented for our benefit. I do not pretend to go into that. The gentleman from Philadelphia has alluded to the subject of the offal of cities; and on that subject I will say, that the *London Times* has quoted a letter from Liebig, in which he takes the ground, that the grain-growing countries of Europe could not maintain themselves without resorting to the sewage of large cities to fertilize their land. But what are we doing? We are spending thousands of dollars annually to waste, and worse than waste, this valuable material in our sewers. What is the consequence? It returns back upon us as poison, and a large proportion of our population are suffering, dying, by the poisons generated from this refuse, which is simply out of place. It has been said, that "a weed is only a plant out of place." So it is with the ammonia in night-soil and

urine. I find that in the reports in Europe, they propose to save this, and return it to the land. I have been preaching this doctrine to willing and to unwilling ears, but mostly, I am sorry to say, to the latter; and I am very glad to find that there are ears here willing to listen to this subject, and I thank God and take courage (applause), that there is a willingness to look this question in the face; for I look upon it as a great moral question, and one that demands that it shall be taken up and treated as a question "relating, not only to the physical and material condition" of the race, but also to the moral condition of the race; because we must have "a sound mind in a sound body," and you cannot have a sound body, unless you pay attention to all the necessary conditions. I have no doubt in my own mind of the importance of this subject-matter. I had the pleasure of reading, a short time since, a paper which came before the Sanitary Association of New York, and in that paper the author takes the ground that half the deaths on the surface of the globe are occasioned by fevers, and that fevers are occasioned by the impure state of the atmosphere, by the miasma that arises from the soil, from bad drains, from damp cellars, in short, from all those causes which exist where the necessary conditions regarding health have not been attended to.

But I have said more than I intended, and merely to call attention to this subject, in the hope that it may be taken up and considered in all quarters of the globe,—for there is no place where the condition of things does not imperatively demand that it should be considered, and a remedy properly applied.

Dr. ORDONAU, of New York. Mr. President: I have no remarks to make upon the Report, for I do not think it necessary to paint the lily or perfume the violet. The Report is perfect. But amongst a number of gentlemen present,—and most of us are, in one sense, theoretical sanitarians,—I see before me the American Chadwick, the American Sanitary Practitioner, who explores, night and day, the purlieus of city life, and embodies in statistics the results of those observations.

I now take pleasure in introducing to the Convention, *volens volens* to himself, Mr. Samuel B. Halliday, of New York.

SAMUEL B. HALLIDAY, of New York. Mr. President: I shall not take the time of the Convention with any extended remarks. I may say, sir, that I am most heartily glad that this subject has been introduced in such a manner, by this Report; and I concur very readily with the remarks which Dr. Jewell has made. For many years my attention has been directed, very much, to the habits, customs, and conditions—domiliary conditions especially—of the poor in our large cities. I have investigated the matter, somewhat, in the city of New York. When I came to Boston, I wanted to ascertain as far as possible, in the few moments I could spare, what there was here analogous to our condition in New York.

I am sorry, sir, that Boston, in some particulars is so much like New York. And if Gen. Wetmore had been with myself and my friend, Dr. Bell, last night, he would, perhaps, have been less lavish in his praises. Within two minutes' walk of this

beautiful hall where we are to-day, Boston rivals the Five Points. I am sorry it is so. I have here, sir, in four columns of foolscap, the census of a single house, but a few squares from the place where we are met, containing apartments for seventy-four families. I have the age of every man, woman, and child in those seventy-four families. I have, also, the number of deaths of children that have occurred in those families, with the ages of those children at the period of their deaths. I have, also, the number of still-births that have occurred in those families. That whole establishment, sir, is equivalent to our "Barracks," on Cherry Street, in New York, a spot which we regard as one of the worst possible in our city. Everything about that building, sir, is abominable. There is not an apartment in it that by any possibility can ever be ventilated. The bedrooms, in which those families sleep, are entirely excluded from the light and air, except as these are admitted by a single door into the bedroom. The water-closets of that place the gentlemen of Boston would not turn their dogs or pigs into. And these are the conditions of the life of human beings in our great cities of New York and Boston! Dr. Jewell said to me, there are no such places in Philadelphia. I think I can find them there.

Dr. JEWELL. Come there, sir, and find them out.

Gen. WETMORE. Mr. Halliday, Boston, rely upon it, has so many good points, it can even bear to have you unveil that one.

Mr. HALLIDAY. Mr. President, I did not expect to be called upon to give results, at all. I made these minutes not expecting to use them until I reached home. I feel that this subject is not important to New York and Boston alone. I was looking at it in a national point of view. One gentleman has alluded to the fact of the great increase in our cities. I had the curiosity, the other day, to run over some statistics, very hastily, for the purpose of developing that point. I think it will be found that one third the population of this country live in communities of not less than ten thousand. I did not go very critically into this, and I do not wish to allow my statement to go out as having been calculated very thoroughly. The families, I think, average about five souls each.

This result I have ascertained to be true in every particular, in the city of New York. I have said that this is not a question of merely local interest; large communities abound throughout the length and breadth of the land, and they are to continue, and will constantly increase in their denseness. We have thought New York had a very dense, crowded population, but it is becoming more dense and crowded every day. If the whole of the city limits were built upon, and the same kind of buildings erected and occupied as some that have been built within the past few years, a population of ten millions would be domiciled on the Island. It is conceded that our populations in the cities must grow larger. It will do so in Philadelphia, and in all our large cities. But, sir, the poor must live in our large cities. They must from necessity stay with us. They cannot even pay a five-cent railroad fare to ride to the better portion of these cities. The fare to and from their places

of employment would eat up one-third of their earnings, and the cost of transportation, some thirty-five dollars a year, would be more than one half of what they pay for their rent. You are sharper in Boston, than we are in New York, about the rent. Our landlords are satisfied to get it once a month; in Boston, they get it once a week. Look at the rent. Seventy-five cents a week was a very common price for the tenements in the building to which I allude,—in some others, a dollar. The rental of this building is about \$4,500 a year; the man who hires it pays \$3,000 a year, and sub-lets it. I see the face of my friend Dr. Curtis, here, who informs me that, after all, this building to which I allude is not the worst place in Boston, either.

Dr. CURTIS, of Boston. I shall add but a few remarks to what has been said upon this question; but it is one so interesting to the members of this Convention that I feel, with Dr. Bell, that it presents to us *the* question for many of our large cities. As to the reference to myself, by the gentleman who last spoke, I am compelled to admit that the building to which he referred is not the worst place we have in the city of Boston. But the matter has been brought so many times, in various ways, to the attention of the public authorities, and oftentimes before the government of our city, (and of other cities, as well as our own,) that it seems very discouraging indeed for those who have labored long in this matter, that so little can be done. Why, sir, investigations of this nature have brought to light facts which present the municipal governments of our various cities as displaying an apathy, in this regard, very remarkable, and not to be accounted for. The number of premature deaths, and the extent of unnecessary disease which exists, in a financial point of view, or in a moral aspect, cannot very well be exaggerated. It has been well stated, long since, that if you halve or quarter every item of the results of an investigation like that made by the gentleman preceding me,—if it is an extensive one,—you will still leave the greatest *exposé* of municipal extravagance, in allowing this matter to remain as it is, that ever yet was made known to a civic community. Now, I believe that sanitation, and, especially, upon those “sores on the body politic,”—our large cities,—a cardinal consideration for this Convention.

My friend, Dr. Jewell, said he had reflected upon the matter, and supposed the time had hardly come when that should be the primary motive of this body. But such is not the case, in my opinion. Ten years ago I conceived the idea of establishing a National Sanitary Association, and reflected much upon it. Quarantine, it is true, has its important bearing, but I consider it as simply one of the subdivisions of the great question; and when facts come to us which probably will be presented by the reports of such an association as this, we shall find that a larger amount of life may be saved, a larger amount of crime prevented, and a larger amount of expense avoided in our cities, than by investigations upon any other point whatever. Our English neighbors have already carried this matter to a very great extent, and, as my friend states, it has engaged the minds of the principal physicians and statesmen of the Old World,

especially in England, where they have the help of their town associations, their building associations, their public bath-houses, their wash-houses, and so forth. Professor Guy, of King's College, stated that the sanitary reform question was THE question of the day, and, in various points forcibly urged the conclusion thus enunciated. One venerable gentleman from the city of my friend, Dr. Jewell, stated, more than half of a century ago, that he believed the time would come, in view of our power over the prevention and the removal of disease by prophylactic measures, including the requirement, by city authorities that buildings should be constructed with reference to health and life, as well as to safety from fire, when our municipal governments would be indictable for allowing the prevalence of epidemic fever in the city. And the voice has come across the water, from the British Board of Health, with some just show of exultation, that the British Parliament is the first legislative body that has ever acted upon the principle thus enunciated fifty years ago by the late sagacious Dr. Rush.

I have not many remarks to add upon this point; but I do feel an earnestness in this matter, and I hope the members of this Convention will look at it in its true light, and see it in its important bearings. And as the condition of various points in Boston has been alluded to, I will state, — and I hope I shall not be considered invidious in my censure, — that a Report was handed to our City Government, a few years ago, in relation to the deaths as compared with the population in various parts of the city, showing that in different parts the proportion, in contiguous wards, was as twenty-three to twelve; and giving the reasons for this unnecessary mortality. I allude to a Report upon the mortality of Boston, according to the census of 1855, to which, I believe, our municipal government have never taken any operative heed. And that our friends from New York may not go home without knowing what has been urged upon that point, I will say that there are a number of copies of that Report still left, and to-morrow morning they will be found upon the table below, for members of the Convention who may wish to peruse it.

Mr. BAILEY, of Boston. I have a few words to say in regard to the Report now under consideration. And I must say that I am somewhat disappointed that the Committee have touched the matter so lightly. I had looked forward, somewhat, to this meeting, with the hope that we might have some remedy laid before us, something whereby we might conduct ourselves in the future. I must confess, Mr. Chairman, that I did expect from our able chairman some remedy, some proposition as to how far this sewerage should be allowed to carry off the filth of a large city, — whether everything should go into it, and make the outlets of the sewers as they are. The outlets of some of our sewers are so offensive that our inhabitants have to come to us and beseech us that something may be done. A little time ago we had our city besieged by the inhabitants of one portion of our city, on account of the outlet of a sewer. For these reasons, I had expected that we should have had something more tangible here, some remedy for this great occasion of disease. We have now only

water-closets, and very few vaults. Everything goes into our sewers. As the tide flows out from the flats, the deposits are left; as the sun comes up, the miasma arises; sickness and death are the result. We are not able to carry our outlets into deep water; our flats are filling up, our commerce is being taken away on account of the decreasing depth of our water; and yet we allow this thing to be touched upon so lightly as it seems to have been here. I do feel that this is a very important subject, and that it is time for the other cities of our Union — certainly for Boston — to take hold of this matter, and in such a way that we may find the remedy.

Dr. S. L. CONDIET, of New Jersey. I attempted to rise, a moment ago, as being the sole representative present from Jersey City, to express the very great gratification I enjoy, in the Report which I hold in my hand, from this Committee, and to express my high gratification at the remarks of the gentleman from Boston, Mr Clapp, in reference to this subject of sewers. And I have been very much surprised at the remarks just made by the gentleman who preceded me, expressing his disappointment that the Committee have made no provision or recommendation for the future checking of the great errors of our system of sewerage. The description the gentleman from Boston gave of the new part of this city, applies exactly, sir, to Jersey City. It is filled up almost entirely, with the exception of a small portion directly in the centre. Our streets are built upon soil which has been reclaimed from the river. Consequently, we are suffering there from the same difficulties which are found in the new part of the city of Boston; and the same system is being pursued there, by our authorities, as here and everywhere else. We have sewers laid upon an almost dead level; the inevitable consequence is, that they fill up, and become a source of disease and pestilence to the whole community. The subject has been often presented to our civil authorities, and they dare not go in advance of public sentiment. And, as a general rule, civil authorities will never go in advance of public sentiment, and public sentiment will never progress until it is enlightened. I ejaculate Amen, therefore, to the remarks of the gentleman from Boston, in reference to this Report, as emanating from a source which will command the respect of all our civil authorities. In Jersey City, in Newark, and in New York, the time has long since passed when the Board of Aldermen, in the distribution of the public contracts, have made it anything more than a mere scramble for dollars and cents. But the day is coming, sir, thank God, when these venal officials will be expelled from our halls of municipal legislation, or when they will be compelled to follow that course in regard to the health of the people which public sentiment imperatively demands. And if you will only reaffirm the principles enunciated, I believe, in the Report made a year ago, I think you will do much toward creating that sentiment. In Jersey City, we boasted that we had an abundant supply of pure water. But what good did it do, compared with what it should have done? The poor people cannot get access to it in the streets, and our pumps have all been taken up. There are, to be sure, in the "tenement-houses" a supply of faucets, — but our poor people have no opportunity for bathing. It is impossible

for them to be personally clean. And I hope the Report adopted by the last Convention will continue to be reaffirmed from year to year, until our public authorities are compelled to take some action in reference to it. For Heaven's sake, let us use all our influence that the poor may be supplied with that blessing which Providence has given to us all in such abundance, — pure air, and pure cold water. If the gentleman who made the complaint just now, in regard to this Report, will look upon page thirty-seven, I think he will see that a very effectual system has been adopted, and that the Committee has recommended a plan, which, if acted upon, will carry this new source of pestilence out to the farmer, and make it a source of enrichment to our whole community.

MR. VIELE. Mr. President: In regard to the charge of the incompleteness of the Report, gentlemen will see, if they will look at the title of the document, that we have said more than was expected from us. Every locality requires a separate system of sewerage; no universal principles for its details can be laid down. Every locality requires a separate and distinct line of action.

THE PRESIDENT. I have permitted too wide a discussion; and I give notice, — without any personal discourtesy, — that the last two gentlemen were strictly out of order, because I said, as the question was, it was a question of local hygiene. I did not wish to interrupt them; but I mean to keep the gentlemen to the subject, hereafter.

GEN. MATHER, of New York. Mr. President: I am very much pleased to hear the announcement you have just made. I suppose that we assemble for business; and we must keep to the question before us, if we are ever to accomplish anything. There is always a disposition to run into details and particulars, and answer for all our localities. I trust, sir, that every gentleman, if he arises to speak upon a matter before this assembly, will endeavor for the future to avoid that tendency, and that we shall confine ourselves to the establishment of fundamental principles; for that is the thing we meet for. Let certain facts and principles be established, and each locality must determine for itself as to the manner and measure in which these principles are to be applied in their case. That is the great objection, sir, to all this proposed legislation. That is the objection which, if I were disposed to make any, in regard to the Report which preceded this, I should find to that paper. I have no objection to any ground work being laid out, as showing the usual way of arriving at the end. But I trust, as I have said before, that the action of this Convention will be confined to great and fundamental principles; and let us act upon them, and them alone, leaving the local governments of towns and cities to determine for themselves upon the particulars.

The resolution of the Business Committee was adopted.

On motion of MAYOR LINCOLN, of Boston, it was voted that the Convention adjourn at 1½ P. M., to meet at 8, P. M.

DR. CURTIS. Before proceeding to the consideration of the Report, I wish to state that there is no representative here from New Hampshire. Francis P. Fitch, M. D., of Amherst, New Hampshire, is

present in the city, and I move you he be invited to sit as a member of the Convention.

The motion was unanimously adopted.

Mr. WIGHTMAN. I have learned with pleasure, that Norris N. Halstead, the President of the New Jersey Agricultural Society, and Benjamin Haines, Esq., Secretary of the Executive Committee of the State Agricultural Society, are here upon official business in relation to the cattle disease; and I therefore move that those two gentlemen be invited to seats as members of this Convention.

The motion was unanimously adopted.

The fourth resolution of the series before the Convention was adopted without debate.

The fifth resolution being in order:—

Gen. WETMORE. I second the resolution submitted, and simply desire to say that I gave notice yesterday of my purpose to submit to the Convention, to-day, a resolution upon that subject. The Committee on Business having taken it into their hands for action, I am perfectly content to leave it there, and therefore excuse myself to the Convention for not fulfilling my engagement.

The resolution was adopted.

The PRESIDENT announced that the business reported from the Business Committee was now finished.

On motion of Dr. JEWELL, it was resolved that the Committee on a Permanent Organization be appointed by the President.

Dr. ORDRONAU. I yesterday gave notice that I should call to-day for a committee, to be called the Committee on State Medicine. I now move that that resolution be taken from the table.

The motion was adopted, and the resolution taken from the table.

Dr. ORDRONAU. Mr. President: It has not been my privilege to be present at any of the previous meetings of this Convention, and my acquaintance with the machinery, through which its operations are carried on, has been derived solely from the printed Reports of its Transactions. I am in every sense, therefore, a new-comer, — a mere apprentice in this sanitary guild; and perhaps it better becomes me to sit as a passive recipient of all I can hear and be informed by, than to make any proffer of information, or to ventilate any opinions of my own, before those whose long services in the cause of *life-protection* and human regeneration have well earned for each that civic wreath which, in the olden time, was conferred upon him who had saved the life of a fellow-creature. But brief as has been my acquaintance with the rubrics of your code of practice, I have yet discovered enough of the *spirit* actuating every gentleman on this floor, to know that such a busy hive as this is intolerant of drones. It drives the ignoble swarm from out its teeming precincts, insisting that we shall all be hand-servants, and not eye-servants. And if, catching that spirit of contagious activity which is here so prevalent, I should seek to take my

turn at the laboring oar, I am well convinced that the Convention will overlook the crude manner in which a new and important subject is introduced to their notice, — in their candid desire to explore the merits upon which rests its foundation. I pray you, therefore, to accompany me to those sources of sanitary necessity ever pregnant with important suggestions to a body like our own, — and out of which suggestions has sprung forth that resolution on State Medicine now under consideration. I perceive, with regret, that to many it is, like the firstborn of Chaos, *rudis indigestaque moles*, and as its author and proposer, I cheerfully comply with the tacit request prefigured upon the countenances around me, to expound and illuminate both the meaning, as well as the application, of this much misinterpreted term.

Yesterday, a learned and honorable colleague, (Gen. Wetmore, of New York,) whose voice I never hear, and whose eye I never catch, without being edified and inspired, introduced a resolution to the notice of the Convention, looking to its future permanent organization. As this, if adopted, would certainly entail upon us the necessity of revising, if not remodelling, the entire machinery of our organization, it occurred to me that perhaps a proper opportunity now offered itself for the creation of a Committee on State Medicine, which should fill a place hitherto unoccupied, and discharge duties hitherto unprovided for, in the curriculum of our business. Those duties were such as, under our present organization, could not legitimately, nor by implication even, be discharged by the standing committees, already existing. They were duties also involving questions of great sanitary importance, and to leave which unprovided for, was to put upon record a confession of our imperfection of constitution. I was anxious, therefore, that we should redeem ourselves from an imputation of this character, so fatal to our future progress. And the more so, as I believe that the height and the depth, the length and the breadth, the expansiveness, in a word, of sanitary science, can hardly yet be appreciated, and most certainly cannot be fully understood, until we explore and pursue to their very sources, those multitudinous agencies, whether physical, whether moral, whether born of earth, of air, or of society, which are either openly or insidiously degenerating the human race. In all parts of the earth where men live in communities, some one of these causes, if not more, is constantly at work. To read the record of their influence upon health, longevity, and mentality, is to peruse one of the saddest chapters in the history of our race. Nor is it wonderful that, looking at great communities which have from time immemorial nourished

“A strangely visited people, all swollen and ulcerous,
The mere despair of surgery,”—

whether those people be found in the valleys of the Alps, or the cellars of Liverpool, or Leeds, or New York, — no wonder is it, that we should feel it to be our first and overshadowing duty to bring to light, — to expose to the eye and to the improving touch of man, those sources of physical degeneration which are everywhere sapping the manhood of nations. By doing this we shall, under the approving

sanction of this Convention, set in motion little rills of reform, which, in the fulness of time, and under God's good providence, will swell into mighty rivers of regeneration: The furtherance of this great sanitary palingenesis, is the object to which State Medicine addresses all its efforts. And he can but imperfectly have mastered the alphabet of sanitary science, who does not perceive that State Medicine is at once its *alpha* and *omega*, — the beginning and the end, — the opening and the closing chapter of its whole institutes.

State Medicine, in a word, is the application of the principles of medical science to the administration of justice and the preservation of the public health. It is a system of medical police, both *preventive*, as well as *punitive* and *reformative*. In its origin it is not simply philanthropic, but also equitable and economic. It has its foundation in the first law of our nature, — self-preservation; — it finds its support in the necessity which this law imposes upon all men of obeying, in order to live. Hence, there is an inter-dependence between the practice of this law and human health, happiness, and longevity. But inasmuch as all men do not, many, in fact, from force of circumstances cannot, obey its behests, it devolves upon society in the aggregate, to enforce such ordinances of physical government as medical science has suggested for the hygienic well-being of its members. In this way the unfortunate poor are protected against the baneful results of their own sanitary short-comings, while the thrifty and cleanly are in like manner defended against noxious agents to which they would otherwise be exposed. Again, this rule of equity finds an urgent recommendation in an economic sense. Disease is a positive loss to the productive industry of any community. Whether it attack one or more persons, it is always an inroad upon capital invested in some remunerative enterprise. The degree of its prevalence becomes, therefore, a true barometer wherewith to measure commercial activity. A healthy community always thrives, — has always the elements of prosperity and growth within itself. It requires few or no hospitals, — makes few or no calls upon the charities of its members, because few or none need them. A sickly community is precisely in a reverse condition. Its wealth is constantly drained for hospital and pauper funds, while it is stripped of the services of those strong arms which constitute the true productive capital of a State. From this brief review of the necessities underlying a system of medical police in every community, it will readily be acknowledged that it becomes the duty of a State to itself, a matter of strict commercial expediency, in fact, to arrest every preventable cause of disease that can possibly arise within its borders. And I think that every government ceases to be one *de facto*, whenever it ceases to extend the ægis of prophylaxis over its citizens.

We have already, Mr. President, certain Standing Committees, whose duty it is to examine in detail various existing causes of disease, and those Committees report annually upon such subjects, and such subjects only, as come within the purview of their duties. They are restricted to examining these, — their duties cease upon the presentation of their Report, and it follows that a cause of disease must be perma-

nently established before they can take cognizance of it,—a year must elapse before they report, and still another year, perhaps more, must expire before any legislative or *State* action is taken upon the subject. Now, if this Convention is designed to carry out what its founders, as I understand, intended, it must certainly work with more celerity than this. I believe it to be a working body, and the essence of all successful work is to execute as soon as you have planned. It is plain that we have workmen enough here,—but, are they all occupied? Has the time not arrived, almost, when your standing committees are ready to say, “We have reported all that was deemed necessary upon this subject. We have nothing more to say. Either give us something to do, or dismiss us?” If we have not already heard this warning voice, depend upon it, we soon shall. Indeed, there have been whispers about to-day, to the effect that your Business Committee had anticipated me in this prophecy. I hope we shall all prove to have been in error, but there is certainly something ominous in this concurrence of vaticination, and had not the presentiment weighed upon me so sorely, I should not have sought to relieve myself by dis-closing it.

I am free to admit that we have here the hundred arms of Briareus, but I am also equally impressed with the conviction that we need the hundred eyes of Argus to guide those arms. It seems to me, sir, to be our duty to investigate preventable diseases not only when developed, but *previous* to development. It seems to me to be our duty not simply to uproot existing diseases, but to prevent their development, to check their spread, and to diminish their violence. We must anticipate disease by anticipating its causes. He is the wiser man, surely, and the better philanthropist, who builds bulwarks of hygienic protection, rather than apothecaries’ shops, against the accession of disease. And you may remember, sir, as not inaptly illustrative of this truth, that when the younger Pliny wrote to the wise Trajan, complaining of a certain fetid stream which defiled the beautiful city of Amastris, and threatened the health of its inhabitants, the Emperor replied that it must immediately be purified, and lest means for that purpose should be wanting, he would personally furnish them. Now we need not one, but many Plinys. We need watchmen on our towers, who shall keep watch and ward the year around, looking far into the future, and desecring the advancing causes of disease and human degeneration.

Does not the eye of this Convention already see looming up in the distance questions of startling proportions, which will yet demand their earnest attention, and compel legislative recognition? As yet we have occupied ourselves only with the sanitary condition of ships, and that partially, with the sanitary condition of wards and precincts in cities,—but do these *pericula mille sævæ urbis* include the whole scope of our professional duties as sanitarians? Do the health of our crops, the health of our domestic animals, the trades which we pursue, the sites which we inhabit, the alliances which we form, affect us in nothing? Are ill-ventilated houses, sewers, stagnant streams, and filthy streets, the only causes of endemic degeneration in cities, or in the

country? Are the lowest types of physical and mental deformity born solely of these latter agencies? It is time that we began to be sensible of the extent of the field which yet remains to be gleaned by us. It is time we understood that we have scarcely more than crossed the threshold of sanitary science, — that we have only attacked those agencies destructive to life, which were most patent to sight, to smell, and to taste. In a word, Mr. President, that while we have done much in the time we have worked, we are still only on the border of that great ocean of public hygiene, which is full of islands clothed in mystery, — whose sides, like those of the Enchanted Isles, are as yet untrodden by man, and where are enshrined the weird divinities of disease and mortal suffering.

It was but yesterday that an honorable gentleman, (Mr. Kimball,) lately a member of the Massachusetts Legislature, introduced a resolution for our adoption, asking for the appointment of a Committee to investigate the causes of pleuro-pneumonia in cattle. This anomalous disorder, which has been lately ravaging the farmsteads of Massachusetts with a singular capriciousness of action, has deservedly attracted great notice to itself. The very elaborate Report of the State Commissioners upon its history and progress is a significant proof of the importance attached to any discussion of the subject in this Commonwealth. Nevertheless, it was found, that in this National Convention, representing every interest in the country, whether agricultural, commercial, civic, manufacturing, or professional, there did not exist a Committee before whom this magistral topic could come. And so we had to create one for the purpose set forth in the resolution. This was a plain acknowledgment of the imperfection of our organization, — an acknowledgment that we were not yet provided with some large and comprehensive Committee to which the subject could legitimately be referred. Of all subjects it was the most proper to come before a Committee on State Medicine, had one been in existence, and I have cited the case chiefly to show that we are still very far from being perfectly organized, and that we cannot become so until such a Committee is created.

But it has been alleged by the opponents of this resolution, that a Committee of this kind would necessarily encroach upon the province of the Standing Committees, by its too comprehensive character. That having cognizance of every subject generally upon which the Convention can act, it would simply merge the latter in itself. I, for one, do not so understand it. This wholesale usurpation of power in the thing created, to the exclusion of its creator, is not, I am quite sure, contemplated in the resolution. Its language certainly conveys no such expression of intention. It is not susceptible of such an interpretation. The Committee asked for is one simply of an *advisory* character. Its business would be to inform itself of every possible cause of disease which experience abroad and at home has shown is capable of impairing health or abridging life, whether in *men, domestic animals, or vegetation*. After having fully sounded these subjects, it would then recommend to the Convention such action upon them as the particular exigencies of the case might seem to require. But at

all events, no action of this Committee would be final in any matter brought before the Convention by them. If I may be permitted to borrow an illustration from parliamentary assemblies or courts, I should say that the Committee on State Medicine would originate bills of impeachment or indictment against noxious physical agents, while the Convention proper would try the issue and pronounce the judgment. The Committee is designed therefore to be only the Grand Inquest of the Convention, and not the final arbiter of any subject, proposition, or investigation that may come before that body.

Having been the mover of the resolution, — whose language I supposed intelligible to all, especially after the amendment made by the Business Committee, — I have until now refrained from undertaking anything like a defence of its merits. I have had occasion, however, to discover, in the course of the debate upon its passage, that the term State Medicine was unfamiliar to some, and as there were many laymen present, as well as professional gentlemen, I have allowed myself to make these somewhat extended observations in the hope to invite, rather than to escape, criticism. Let them be fully discussed. Let the subject be pursued to its proper source, and, satisfied as I am of its importance, and of its great value to the future success of sanitary missions, I have no fears of its ultimate recognition by this Convention, as that stone, which, though once rejected by the builders, will yet be deemed worthy of being made the corner-stone of our future and permanent edifice.

Dr. GRISCOM, of New York. I would like to ask of the mover of this excellent resolution an explanation of one point. I want to know whether that Committee is itself to inquire into and report upon these various important points which they may deem necessary to be discussed, or whether they shall refer the subject to sub-committees of their own body, or whether they shall have power either to appoint sub-committees from the Convention, or to refer the subjects to the next Convention.

Dr. ORDRONAU. I had always supposed that all committees are of two kinds, — standing committees and special committees, which can be raised at any time by any parliamentary body. I do not understand that the Convention cannot raise a special committee even upon the subject of extracting sunshine out of cucumbers, if necessary.

Dr. GRISCOM. That was not the point I wanted to get at. I wanted sunshine, but not from that class of light-producers. This Convention has no standing committee; it is not a standing body itself. It meets only from year to year, — an irresponsible and uncertain body. Here is a proposition for a standing committee on State Medicine. I would approve of the measure, most decidedly, if we were a continuous body, as was proposed under the resolution suggested yesterday, and introduced by the Business Committee this morning. If we become an "American Sanitary Association," a permanent organization, then a standing committee is in order; but we are simply a Convention, meeting from year to year; the next year we may have one, the next year none. Under the permanent organization proposed, we shall be able to raise this Committee, and then we

may determine what it shall be. Still, I do not wish to lose the opportunity of establishing this Committee now.

Dr. ORDRONAU. I will modify the resolution so far as to call it a special committee, if that will meet the objection; because the introduction of that resolution now might, indeed, seem premature. It was a mere corollary to General Wetmore's proposition to make a permanent society.

Gen. WETMORE, of New York. I will offer a motion for the disposition of this subject, and will move that the resolution of Dr. Ordronaux be referred to the Business Committee, for its consideration. I can see in that idea the germ of a great good. And I am only sorry the proposition was brought forward by the gentleman at this precise moment. The information the gentleman could give us upon that subject would be of immense advantage; and if we can have it before we adjourn, I want to have him heard out upon this question. It is to be one of the great means by which we are to do good in our future operations. The term used must not be taken in the restricted sense of the *State* as a form of government; the word *State* is used by the gentleman in its great sense, as including everything that belongs to the nation. The whole community is included in the term *State*; and after a further exposition from him of his views, the Convention will understand it. I propose that that resolution be referred to the Committee on Business.

The motion was unanimously adopted.

Dr. GRISCOM, of New York, reported, from the Committee on Business, the following additional resolution:—

Resolved, That the Report of the Committee on the "Utility of Wet Docks," &c., be adopted by the Convention, and printed in its Transactions.

Dr. GUTHRIE, of Tennessee, moved the following amendment:—

Resolved, That the Report upon the "Utility of Wet Docks," be referred to the Committee on External Hygiene, with powers.

Dr. STEVENS, of New York. I beg leave to say that, as a member of this Committee, I do not prefer the second resolution to the first. I do not feel prepared myself to recommend that Report for the adoption of this Convention. There are suggestions worthy of consideration; but to adopt them, I think, might be premature.

Dr. GUTHRIE. I offered this resolution to cover this very ground. The gentlemen whose names are signed to that Report are neither of them here. I think my friend Dr. Stevens's name appears upon the cover; it is not signed to the Report, and he is not prepared to recommend or indorse it. I question if the Convention, after carefully reading that Report, are prepared to adopt the Report, although they may print it. And my resolution simply refers it to the Committee on External Hygiene, with powers. I believe that to be the most courteous way in which we can treat the absent Committee who have made this Report. I regret exceedingly that neither of them is here. Dr. McDuffie met me in the street, a few days ago, and said Dr. Sterling would certainly be here. And I understood the

Business Committee to make, simply, a reference, without regard to adoption or consideration. I offer my motion as a substitute.

Dr. ANDERSON, of Staten Island, moved that the Report be laid upon the table.

Dr. STEVENS, of New York. Mr. President: There are one or two paragraphs in the Report which are offensive, and, I think, justly so, to gentlemen from Staten Island. If referred, with powers, it will be published without those offensive paragraphs. I fear the motion to lay upon the table would be hardly courteous to Dr. Sterling, who has embodied in the Report the results of much study and experience.

Dr. ANDERSON. Mr. President: I rise to a question of personal explanation. I would have voted in favor of the resolution presented by Dr. Guthrie, if he had not included in it a power to publish.

Dr. GUTHRIE. That is withdrawn.

Dr. ANDERSON. I will then withdraw my motion to lay upon the table.

Dr. GUTHRIE. Mr. President: I think it is due to the gentleman who has spent so much labor in drawing up that Report, that his views should be presented in the Transactions of this Convention; but it ought to be with an understanding that this Convention does not formally adopt the sentiments of that Report,—that it is adopted for publication, without a committal to its sentiments.

Dr. JEWELL, of Philadelphia. I move that the Report be printed in the Transactions, and that its further consideration be deferred till another meeting of the Convention.

Dr. GUTHRIE. There is language in that Report not acceptable to the Convention, which they would not publish. And what I desire to accomplish is to refer it to a committee who shall expurgate that, and not commit us to an absurdity. I am sorry the members of that Committee are not here; and I press my motion now, simply because I believe it to be the only way in which we can get rid of a very troublesome subject.

Dr. HARRIS. I beg leave to say that the subject treated of in the Report is highly acceptable to the Committee on External Hygiene, so far as I am aware of their views. And the subject is one that has been deeply interesting to me, and the views brought forward by Dr. Sterling are sound. The objectionable language, I know, from my knowledge of the gentleman, he would be willing to strike out. I am desirous that the greatest courtesy should be shown to the Report, and to the author.

The question being taken upon Dr. GUTHRIE's substitute, it was adopted.

Dr. JEWELL, of Philadelphia, offered the following resolution:—

Whereas, at the last meeting of the Convention, after a learned and dispassionate discussion, the long-agitated question of the non-transmission of yellow fever from one person to another was definitely settled, and *whereas*, in order to strengthen that decision, therefore

Resolved, That the action of the last Convention on the question of the non-contagiousness of yellow fever, to be found on page 45 of its Transactions, be and is hereby reaffirmed.

Dr. JEWELL. I move that the Report be laid upon the table till evening, in order that Dr. La Roche may address the Convention upon the subject. Agreed to.

The Report of the Committee on Dispensaries was called for.

Gen. MATHER, of New York. I deeply regret to state that circumstances beyond the control of the Committee have prevented me from making any report. Not from any want of respect to the Convention, and not from any want of appreciation of the great physical, moral, and political importance of the subject,—but so it is. I am not prepared to make any report; and I merely call the attention of the Convention to the fact, and submit this particular question to them,—whether or not the Committee shall be continued.

On motion of Gen. WETMORE, the Committee was discharged, and it was resolved that a new Committee on Dispensaries should be appointed, of which Gen. Mather, of New York, should be Chairman.

The Report of the Committee on the “Quality and Supply of Food in Cities, Markets, and Abattoirs,” was called for.

Dr. HARRIS, of New York. May I offer an apology for that Committee? It was the design of the Chairman of that Committee to insure a report upon that subject, at this Convention. His time was variously and too fully occupied. Notwithstanding this, however, he held communication with the various members of the Committee. The subjects included under that resolution were so divided between members of the Committee, that it was hoped some progress would be reported, or a final report made. Some of the more important subdivisions of the Committee were unable to report in full, and it would have been impossible to present a full and satisfactory report. As chairman of the Committee I am able to report considerable progress, and to promise, for a part of the members of the Committee, that the Report shall be completed during the ensuing year, if it is the pleasure of the Convention to continue the Committee.

The Secretary having no minute of a motion by Dr. Guthrie, on the previous day, that the Committee be continued, Dr. Guthrie renewed his motion, which was adopted.

The Report of the Committee on Architecture was called for. No report was presented.

The Report of the Committee on Plans of Tenement-Houses was called for.

CHARLES H. HASWELL, ESQ., of New York. Mr. President: I find myself called upon to take my turn upon the stool of repentance, as Chairman of a Committee. I feel very much embarrassed in asking the members of this Convention if I have ever before been delinquent upon a Committee like this. In many years of public life, I have

never accepted a position like this, without fulfilling to the best of my ability the duties imposed upon me. I fully intended to present a report, and hoped that it might contain some suggestions worthy of consideration. It so occurred that the legislature of the State of New York, in consequence of a calamity that lately occurred, undertook to legislate upon the subject. It is very natural and reasonable that the Committee should wait till that body has acted thereon. The legislature did not adjourn until the latter part of March, or, rather, the first of April. I essayed, upon three several occasions, to call that Committee together, but failed to effect my purpose. Immediately after that, I suffered the affliction of having to remove my domicile, and was without the use of my library for one month. The time passed, and I found myself unable to approach so prolific and interesting a subject in the short time allotted to me. I have preferred to submit the matter to the Convention for their judgment.

On motion of Dr. Garrish, of New York, the Committee was discharged.

On motion of Dr. Garrish, it was resolved that a Committee upon the subject be appointed for the ensuing year, and that Charles H. Haswell, of New York, be the Chairman of such Committee.

The Report of the Committee on the "Nature and Sources of Miasmata" was called for.

Dr. BELL, of Philadelphia. I had a note from Dr. Darby, two months ago, or less, informing me of his inability to attend to that subject, and saying that, if the Convention desire it, he would be willing that the Committee should be continued, and he would endeavor to discharge the duty.

THE PRESIDENT. Is he the gentleman who circulates Darby's Prophylactic Fluid?

Dr. BELL. I do not know, sir. I do not know Professor J. Darby. I only know that there is an advertisement circulated, signed "Professor J. Darby."

On motion, the Committee was discharged.

CHARLES H. HASWELL, of New York, submitted the following resolution:—

Resolved, That the Committee on Civic Cleanliness is instructed to report a system of sewerage calculated to arrest the deposits therefrom from exposure to the air upon tidal surfaces, and that they be directed to adapt their recommendations to the different conditions of harbors and rivers having extensive or small tidal volumes.

On motion of Dr. Garrish, of New York, the Convention adjourned to 8, P. M.

Evening Session.

The Convention was called to order at 8¼ o'clock, Dr. Arnold in the chair. The records of the preceding session were read, and several corrections having been made, they were approved.

MAYOR LINCOLN. I have received a letter to-day from a gentleman of Boston, who has for many years been much interested in sanitary matters, and, with your permission, I will hand the letter to the Secretary, and ask him to read it, and then will move that it be referred to the Committee, who have the subject under consideration. The gentleman to whom I refer is Mr. GEORGE B. EMERSON, of Boston.

The Secretary then read the letter, as follows : —

To the Honorable F. W. LINCOLN, Mayor of Boston, and member of the Sanitary Council.

SIR : I wish, through you, to call the attention of the Convention, if it have not already been turned in that direction, to the only insufficient, wasteful, and dangerous modes now in use for the drainage of cities. The contents of the sewers are now very generally allowed to pour into some stream, river, or bay. They are thereby lost to agriculture, while they poison the waters which should be and might be perennial sources of purification, refreshment, and health.

The amount of the loss to agriculture may be conjectured from the fact that every family of five persons is thought, by those who have paid attention to the subject, to furnish material for manuring, in the best manner possible, not less than an acre of land. If this be so, not less than thirty thousand acres of the naturally poor land in our neighborhood might be annually made rich by the now wasted contents of the sewers of Boston.

Instead of this natural, proper, and economical use, the whole of this substance is now thrown into the bay, gradually filling up the channel, and rendering the waters offensive and poisonous.

The present condition of London, and the present and past condition of most of the other cities of the old world, now stand warning us of the terrible consequences of imitating their bad example in this respect. The largest river of England is wholly inadequate, properly to drain its capital, while, as a necessary consequence of the mistaken modes of draining, millions of dollars are annually spent in importing from distant shores, guano, bone, and other manures, while identically the same mineral substances, of still greater value, are allowed to go to waste, and to render loathsome and poisonous the stream of the Thames.

In one or two cities in Scotland a wiser course has been pursued.

One visible consequence of this almost universal waste is, that already most of the land in the neighborhood of long-settled cities, even of much of the land on the Atlantic slope in America, is annually becoming more and more exhausted.

Pardon me for calling your attention to this subject. Its immediate and prospective importance seems to me to be not inferior in its bearing upon the health and prosperity of the inhabitants of our cities and their neighborhood, to any that can come before you.

With great respect,

Your obedient servant,

GEORGE B. EMERSON.

WINTHROP, *June 15, 1860.*

The communication was referred to the Committee on Civic Cleanliness.

Gen. MATHER moved that the blank in the resolution of Gen. Wetmore, providing for the reappointment of the Committee on Dispensaries, be filled by the insertion of the number five, which motion was agreed to.

Dr. HARRIS, of New York, announced his willingness to present a voluntary communication on "Heat as a Disinfectant," and he was, by vote of the Convention, invited to read it.

On motion of Dr. SHANNON, of New York, the communication was referred to the Business Committee.

Dr. ARNOLD. Will you excuse my stating one single fact in relation to *fomites*? I do not understand the matter particularly, but I wish to state that, in regard to the virus, or *materies morbi*, or whatever name you choose to call it, of yellow fever, the greatest enemy to it, with us at the South, is Jack Frost. I do not mean to say this to counteract any position taken in the communication, which contained many suggestions of value, but I wish to call your attention to the fact, that, after all, we have to modify our opinions by the climate. When the yellow fever appears in Savannah, no man is safe until a hard "black frost," as we call it, comes. That is a fact, certain, inevitable, as that the sun rises in the heavens. Cold with us kills it dead, and anybody might have gone to Savannah in the fatal epidemic of 1854, after the frost, with as much impunity as to the top of the Himalaya Mountains.

Dr. HARRIS. There can be no doubt of the fact just stated, by Dr. Arnold. A black frost certainly destroys yellow fever, and wherever such refrigeration can be applied or procured,—whether to infected things, the compartments of an infected vessel, a house, or a whole district, the fever will quickly subside, and its mysterious cause become completely inoperative. But there are certain practical difficulties in producing and applying the requisite degree of refrigeration by artificial means in ships, houses, and to pestilent *fomites*. In the case of the U. S. Frigate "Susquehanna," at quarantine in the bay of New York, in 1857, nearly twenty thousand dollars were expended in futile efforts to disinfect that vessel by means of ice and salt, ventilation and cleansing; yet, from April till October, that noble vessel remained infected; indeed, until the autumnal frosts put an end to yellow fever poison, that infection seemed to have been steadily augmenting on board the "Susquehanna," at its lonely anchorage in the lower bay of New York. She continued to be badly infected after immense quantities of ice had been thrown into her various compartments. But, mind you, even that ice did not diminish the temperature of those compartments to the freezing point, and much less was a freezing temperature secured in those sections of the ship into which the ice was not, or could not be, introduced. This was, and always must be, the great practical difficulty,—the refrigeration cannot be

effected throughout the vessel. It is, also, undoubtedly, impracticable for the quarantine authorities to disinfect yellow-fever vessels by cold, simply because it costs too much, and requires time and much labor, while the economy and practicability of applying steam for that purpose are susceptible of scientific demonstration, as I would have shown by facts contained in other pages which I have in my pocket, if it had not been burdening the attention of the Convention. If it were necessary to apply steam to this hall, and raise the heat to the scalding point, it could be done in twenty minutes, and at an expenditure which any of us could defray; and yet it probably would not injure the cornice, even, if that is well put on. I venture to say, it would not injure the room seriously in any respect.

Gen. MATHER. I feel constrained to rise to a point of order. There is no motion before the Convention.

The PRESIDENT, *pro tem.* There is no regular business before the Convention.

Mr. SHANNON. I move that Dr. Harris be invited to continue his remarks on this interesting subject.

This motion was seconded by Gen. Mather, and carried, and Dr. Harris resumed.

Dr. HARRIS. I believe, sir, that it is desirable, in view of the practicability of applying steam as a disinfectant, that this Convention should appoint a committee to institute such inquiries, and make such experiments as they may be able, with reference to the disinfecting power of heat. The subject is one of great practical importance; but I think that it is not desirable to enter upon an extended discussion of the subject at this time, as there may be other questions waiting the attention of the Convention this evening.

The PRESIDENT, *pro tem.* The Convention has paid you the compliment of expressing its desire to listen to you, and I hope you will go on.

Dr. HARRIS. I will make a few remarks, and then offer the resolution I have just prepared.

Having seen the impracticability of applying cold to vessels arriving in our northern ports, with yellow fever on board, where the disease is, as I suppose always exotic, I have been led to inquire whether we have any other disinfectant. Dr. Van Bibber stated, in his Report last year, very frankly, and, as I think, very truly, that a disinfectant of yellow fever is a desideratum; and it is a desideratum of vast importance. I have seen anchored at quarantine, in the Bay of New York, at one time, eighty-three vessels. I have seen vessels and goods detained at quarantine, valued at many millions of dollars, for weeks or months, simply because they were suspected or known to be infected with yellow fever. The amount of loss to merchants, from such detention, under any existing system in our northern ports, is immense. In the port of New York alone, according to a report to the Chamber

of Commerce last year, the loss amounts, annually, to many millions of dollars. Now, sir, if it were possible for us to discover a method of disinfecting those articles which may be subjected to some speedy, effectual, and practicable mode of disinfection without injury, it would be of great value; and I believe that all articles which are capable of becoming *fomites* of yellow fever, or particularly liable to become *fomites* of any other malady, may be disinfected by heat, if not by ordinary steam, at least by dry heat, properly moistened. I believe, sir, after considerable examination of the subject, that it is practicable to apply heat for purposes of disinfection, first, to all articles liable to become *fomites* of yellow fever; and particularly is it practicable to apply as much heat as is necessary to the disinfection of the vessels themselves. It is well known that ships themselves are most likely to become vehicles for conveying exotic infection to our maritime cities, and they are prone also to engender pestilent infection. I am not afraid of their cargoes; at least, there are but few cargoes liable to infection. Occasionally, we have a few bales of filthy rags, or some bales of unpressed cotton; but we have always plenty of beds, pillows, blankets, &c. Now, I have found, from my own experience, that I can take all the bedding, pillows, feathers, mattresses, of every kind, subject them to heat, and thoroughly disinfect them, at a merely nominal cost. In regard to other articles liable to become *fomites*, it is easily shown that, with few exceptions, they can probably be disinfected also; but with regard to vessels, experiments are yet to be made. In the case of the *Susquehanna*, a large war-steamer, she was first unloaded of all her stores; she was anchored in the lower bay of New York, and there she remained from April until late in the autumn, until the hard frosts came, and yellow fever continued to occur on board of her. Time after time I saw patients brought from that vessel who had gone on board healthy men, after the crew had left her. The ship-keepers and new engineers were seized with yellow fever. Finally, on the twelfth of July, nearly three months after her arrival, it was determined to clear out her "shell-room," a section of the vessel hitherto untouched. The two men, who went on board to break out that part of the magazine, entered the ship and went to the "shell-room" by the most direct way. They worked all day and accomplished their task. Those two men went on board in perfect health, and having completed their work in a few hours,—if I rightly recollect, all in one day,—they left the ship, and were not subsequently exposed elsewhere to the cause of yellow fever. About a week subsequently, I saw them both dying of black vomit.

Previous to this, during the ten or twelve weeks the ship had been at our quarantine anchorage, the vessel had been repeatedly fumigated, whitewashed, ventilated; and, as stated by the quarantine physician, "everything had been done that reason and science could suggest, to free her from infection, and for some time they flattered themselves with entire success." But about the time the shell-room was cleared—early in July—all the remaining stores were discharged, and among other things, a new sail was sent up from the ship to the quarantine warehouse, twelve miles distant. Two of the lighter-

men, who were engaged in that service, slept in the folds of that sail one night at the warehouse, and were soon taken ill with yellow fever. Thus did yellow fever continue to occur among the persons employed on board that ship, until the autumn was well advanced. Even after the hold of the vessel had been refrigerated, at great expense, with ice and salt, the first man who was sent below, during the month of September, to scrape the sides of the ship's hold, was smitten with the pestilence, and died of black vomit.

I might cite from our quarantine records a series of illustrations equally as instructive, showing the obstinate persistence and continuance of infection in vessels lying at the anchorages of our northern ports. It is desirable that such vessels should not remain contaminated. It is desirable that, where commerce collects such numbers of vessels as are liable to be congregated in New York harbor, they should not constitute a pest-embankment. We have in New York bay a pest-embankment, in the midst of which it is dangerous for healthy vessels and passengers to remain for a night. I will cite an instance. Early in July, 1856, there were some seventy vessels at the upper quarantine anchorage in the harbor of New York, in the vicinity of the Narrows, several of them badly infected with yellow fever. A vessel arrived from Tralee, in Ireland, a healthy port, with some two hundred passengers, and a cargo of iron. The health officer ordered vessel and passengers anchored in the midst of the fleet then at quarantine, for twenty-four hours. I have no reason to believe that there was any communication between these vessels over night, particularly between the other vessels and this one, which was under the strict *surveillance* of the emigrant harbor police on board; but six days after that, I received as a patient in the hospital, a man from Tralee, in Ireland, sick of yellow fever, who came as a passenger on board of that vessel. He had been sick forty-eight hours, and soon after entering our hospital commenced the black vomiting. His only exposure to the disease had been that experienced in remaining at the quarantine anchorage and sleeping one night on the deck of that vessel, surrounded by ships from the West Indies, infected with yellow fever.

I desire to make these two points appear in this statement of facts: 1st. That no means have yet been devised or applied for the effectual and immediate disinfection of a vessel contaminated with yellow fever, previous to the season of severe frost: 2d. That the public safety, as well as the interests of commerce, demands the discovery and application of such means of disinfection, in order to prevent the congregation of infected vessels at quarantine during sickly seasons, and so as to provide for the uninterrupted use of all vessels in the legitimate objects of trade, and which will enable science, by some practicable application of disinfectants, to triumph over the vexed question of the age,—the quarantine question. I offer a resolution, in the hope that when this Convention meets again, another year, we may be favored with a special report on this subject,—more conclusive and satisfactory than the paper I have just read. I therefore move that a committee of three be appointed to report at the next meeting of this Convention, upon Heat as a Disinfectant.

A MEMBER. Were salt and ice used in the case of the Susquehanna?

Dr. HARRIS. Yes, sir; but, as I said before, the trouble was, that the temperature in the vessel was not, in every part, reduced to the freezing point.

Gen. MATHER. Is refrigeration a disinfectant?

Dr. HARRIS. Yes, I think it is, unquestionably, of yellow fever; but not of typhus or smallpox.

Gen. MATHER. Do I understand the gentleman correctly, as maintaining that cold cannot be effectually applied to vessels as a disinfectant, for the reason that it cannot be applied to all its parts?

Dr. HARRIS. The gentleman has probably misunderstood me in this respect. I regard the theory of the disinfection of yellow fever by cold as correct; but I regard it as impracticable on account of the expense, as well as on account of the possibility and even the probability of failing to refrigerate certain places in the vessel where ice could not be applied. As regards the use of steam, we can send that whither we will.

Gen. MATHER. I was going to ask a further question for the purpose of making the subject more practical. By what process could steam be effectually used in places that could not be disinfected successfully by refrigeration?

Dr. HARRIS. Mr. Chairman, steam will go wherever there is an opening. As truly as "nature abhors a vacuum," so truly does steam love an opening; and by its great elastic force, it finds that opening. I believe, sir, that it has been used occasionally in the navy to exterminate vermin from their inaccessible hiding-places in the ships. I am not certain, but I think I have heard of instances where rats were completely driven out of vessels by driving in steam.

Gen. MATHER. We wish to exterminate yellow fever, not rats. If I understand the matter, cold will penetrate where you cannot make steam go. Cold will penetrate where there is any conducting medium, whether solid or atmospheric. It is well known to every man of observation, that you cannot force steam through impervious substances; and I maintain that if it is proposed to reach those hidden places where this *fomites*, or whatever you please to call it, is, by the application of steam bodily to those points, it strikes me that the process of refrigeration will more certainly reach it, and more effectually, if my philosophy is correct, than steam. I may be all wrong, but I would like to hear further in regard to the matter.

Dr. BELL. I wish to put Dr. Harris right about the rats. In 1847, and '48, I was an assistant surgeon of the navy in the Gulf of Mexico, where the yellow fever raged very violently in the vicinity of Vera Cruz, where cold cannot be employed, for we cannot get it. During that time, one of the vessels was so seriously infected that the hatches were closed, and the persons on board preferred to sleep under the awnings on deck, rather than run the risk of sleeping below, and it proved less hazardous in the result. Fever cases continued to occur during the whole season, until the northers set in. There are no

frosts there, but the northerners from the mountains seem to be as effectual a poison, so to call it, of the yellow-fever poison, as frost. In other words, the epidemic ceases in the tropics, where there is no frost, on the setting in of the northerners, or the winds from the mountains, instead of from the coast, where there is a great amount of vegetable decomposition. In the beginning of the summer of 1848, we again had cases of yellow fever. Meanwhile, we had changed commanders, and the new officer was a man who had a great antipathy to the vermin then on board ship,—rats, mice, and cockroaches. He said he was not only going to kill them off, but cleanse the vessel, so that we could sleep below. I was consulted as the medical attendant, and very readily assented to the trial. Steam was turned in upon the vessel, and we not only killed all the vermin, but from that time no other case of yellow fever occurred. There was no way of applying ice there, and there are many other cases where its application is impossible. Shall we say to you, sir, in Savannah, that you shall not use steam, though ice be dear? Steam is certainly a cheap means, and a most effectual one. It costs much less than ice, especially in a steam-ship, which is a “steam generator,” always at hand.

The PRESIDENT, *pro tem.* Is there such a thing as a rat on board a vessel now, after this positive remedy has been discovered? (Laughter.)

Dr. BELL. All our vessels are not steam generators.

Dr. GUTHRIE. I would like to express my admiration of the paper read by Dr. Harris. I think it throws great light upon some points. I listened to it with great pleasure, and I only regret that we did not have it entire. I am in favor of the resolution, but I wish to offer an amendment, which I trust the mover will accept. It is this: “and also the value of public washing-houses, as disinfectants, for the poor in cities.” It struck me during the whole of the reading of that communication, that we have in this very thing, the application of heat and steam, an effectual means of affording to the poor the opportunity of applying this powerful disinfectant to their clothing. It struck me that it would afford to the poor in our cities, living in close, contracted localities, where the expense of applying heat by the ordinary methods, to disinfecting or cleansing clothing, would be burdensome, a cheap and easy method, and one that would tend to promote the health of the country appreciably.

I have no doubt as to the question between heat and cold, that heat can be sent through any building, or any ship, or any enclosed space, with a power that would astonish any one who had never experimented upon it. I do not propose, if the mover of the resolution objects, to press this amendment, but I hope that he will accept that amendment, in connection with the application of steam as a disinfectant, and consider the value of public washing-houses to the poor. And while I am up, (not to detain the Convention,) I will make one remark upon the subject of the application of steam. I chanced once to be appointed by an insurance company to assess damages sustained either by heat, by water, or by fire, to a lot of goods and drugs put up in glass bottles, with ground-glass stopples, tied over with kid. They

were deposited on shelves, in the third story of a building. The second story, in which the fire originated, was used as a storage room for cotton. The third story was protected by iron shutters securely fastened. The fire commenced in the night and burnt some hours before it was discovered; when the alarm was given, the engines began to play upon the building, and the concentration of the heat and steam was such that the goods were entirely ruined by the heat and steam permeating the bottles.

I apprehend that no scientific gentleman can think that there is any comparison as to power, between steam and cold. I hope the Business Committee will give to this paper their approbation, and that it will be published, and that a new Committee will be appointed to report at the next meeting.

Dr. BELL. I would mention in connection with the statements of Dr. Harris, in reference to the steam-ship *Susquehannah*, as I have myself seen the bills, that the effort to freeze out the yellow fever on board that ship cost the United States about \$19,000. Yet it was ineffectual; it did no good. Cases of yellow fever continued to occur, as Dr. Harris has said. I venture this fact, because there the United States was the paymaster, and the persons in charge had full liberty to make the experiment.

Dr. BIBBINS, of New York. I hope the resolution will pass. I have listened with a great deal of interest to the paper; and, sir, the fact that heat may not be a perfect disinfectant, is no reason why, if it is a partial disinfectant, we should not avail ourselves of it. If it will save ten lives during an epidemic, we certainly ought to employ it. Sir, the question has arisen, If the poison can be destroyed by heat, what is the degree of heat that will destroy it? That is a practical question for the Committee to settle in the course of the year, and I hope they will test it thoroughly. Another thing, sir. If it will have this effect upon *fomites*, what effect will it have upon persons? Suppose persons laboring under yellow-fever poison could be introduced into a building where the temperature is at a certain degree, or if they could be brought within the influence of steam which would act as a disinfectant, what would be the result to them? That question ought not to be lost sight of by the committee.

Now, sir, in regard to the smallpox and the vaccine disease, the analogy which Dr. Harris presented in his paper does not seem to hold. Yellow fever is destroyed by cold; smallpox *almost* as effectually by heat,—not *as* effectually. I speak, sir, from experience in the matter. I have been eight years among the poor population of New York city, and been through two or three epidemics, and we have never had an epidemic like smallpox in New York during July and August.

The PRESIDENT, *pro tem*. What months do you have it in?

Dr. BIBBINS. In January and February, and the months when the air of the tenement-houses is pent up.

The poison is destroyed by heat. If you carry the vaccine matter in your pocket, it becomes heated, and its properties are destroyed.

We preserve it by subjecting it to cold, almost to the freezing point, and the cold does not destroy it. I hope, sir, if the Committee are to present this subject, that they will test this question fully.

Dr. GRANT, of New Jersey. The Report of Lieut. Viele was adopted this morning before I had any opportunity to make a motion which I wished to make, and I therefore take this occasion to do so. I move, sir, that there be added to that Report, on page 42, the words "statistics of disease and mortality, carefully prepared." It will be recollected that this morning we adopted, with that Report of Lieut. Viele, a memorial to be sent to the several municipal authorities of this country, requesting them to appoint a Committee to examine and report upon certain subjects which are enumerated, and wish, sir, to include the subject I have named among the rest.

I make this motion because I feel an interest in the statistics of mortality in this country. At the instance of the Medical Association and Board of Health of Newark, N. J., I set about compiling in detail, very carefully, the statistics of mortality of the city of Newark, comparing them with the statistics of all the large cities of this country that I could obtain; but after the most diligent and careful inquiry, I could obtain statistics from only about six or seven cities; and I found that a number of very large cities in this country have no statistics whatever; and where they have any, they are taken merely from the reports of undertakers. I think it is the duty of every municipal body to compile these statistics, and compare the different diseases one with another, and each one with the whole number of diseases. I would suggest that the matter be brought immediately to the notice of municipal bodies, and that they should be urged carefully to compile these statistics, and that the Committee report at the next meeting, in such manner as they may deem expedient. I trust that this memorial will be responded to by a large mass of statistics, which will be of very great value.

Lieut. VIELE. I should think that a letter communicated by the President of the Convention to the civil authorities, with the request made by him that the reply should be transmitted to the address of the Secretary, when the reports asked for shall have been compiled, would answer the purpose, and it would prevent the memorial from being overlooked in any way.

Dr. GRANT. I wish it made formally, in just the same manner as the other. I think it more important than the others, if anything. And I would say, in passing, that when this subject was up this morning, some remarks were made in regard to the authorities of New Jersey, in connection with those of New York. Now, whatever may have been done or left undone by the authorities of other cities, those of Newark have taken up this matter, and I defy any man to point out any body of men more earnest in this matter of sanitary reform than the authorities of Newark. They have requested the co-operation of the physicians of that city, and they have not limited them in any way as to pecuniary resources; and they have shown an earnestness in this matter well worthy the attention of the gentlemen interested in it.

The PRESIDENT, *pro tem.* I would suggest that Dr. Snow's "Report on Registration" has provided for all that the gentleman suggests.

Dr. GRANT. I have looked over this Report, and, although it is very able, I think it fails to meet the points I have suggested. This Report suggests the manner in which the facts should be ascertained, while Lieut. Viele urges the attention of civil authorities to points that are immediately connected with sanitary reform.

The PRESIDENT, *pro tem.* My point of order is, that the thing having been definitely settled by the action of the Convention on that particular point, it is not in order again.

Dr. GRANT. This is the first time that it has been brought up, sir.

The PRESIDENT, *pro tem.* Exactly; and it is the first time I have had to decide upon it.

Dr. GRISCOM, from the Business Committee, reported the following resolution:—

Resolved, That the resolution presented by Dr. J. Ordronaux, for the appointment of a Committee on State Medicine, be referred back to the Convention, with a recommendation that it be passed, after omitting the word *all*.

Gen. MATHER objected to the resolution, on the ground that it was too broad, and would interfere with the right of individual members to propose subjects for the consideration of the Convention.

Dr. GRISCOM and Gen. WETMORE spoke in favor of the resolution, maintaining that the objection to the resolution proposed by Dr. Ordronaux was founded on a misapprehension of its purport, and that it was only intended that the Committee, whose appointment was therein provided for, should recommend subjects to be considered,—not themselves consider,—and report upon those subjects.

Gen. MATHER said, that if it was meant that the Committee should simply suggest or recommend to the Convention certain subjects to be referred to the Committees, and if it should be so expressed in the resolution, he should not have the slightest objection to it; but as the resolution stood, it implied a great deal more than that.

Dr. ARNOLD (Dr. Guthrie in the chair) took the floor, and opposed the resolution, sustaining the objection raised by Gen. Mather.

Dr. ORDRONAUX defended his resolution, and explained the meaning of the words "State Medicine." He referred to the cattle disease, to the effect upon the sanitary condition of the country of the privilege given to mill-owners to overflow meadow lands in order to increase their supply of water, and to the question of the deterioration of articles of food, such as flour, for instance, as subjects on which a Committee on State Medicine would deem it proper to report to the Convention. He disclaimed any purpose to usurp power or authority. This Committee was not an executive committee; its object was simply to supply grist to the sanitary mill.

Hon. MOSES KIMBALL, of Boston, spoke briefly in opposition to the resolution, and at the conclusion of his remarks, on motion of Ald. Wightman, it was referred back to the Committee.

The Convention then adjourned to Saturday morning, at 10 o'clock.

THIRD DAY.

SATURDAY, June 16, 1860.

The Convention was called to order at 10 o'clock, Dr. Arnold, first Vice-President, in the chair. The minutes of the preceding session were read and approved.

On motion, Dr. Timothy Newell, of Providence, was admitted to the Convention.

Dr. GRISCOM, from the Committee on Business, reported the following resolutions :—

Resolved, That the Committee recommend that the paper presented by Dr. E. Harris, of New York, "On Heat as a Disinfectant," be published in the Transactions of this Convention.

Resolved, That the Committee recommend to the Convention the passage of the resolution offered by Dr. Ordronaux, modified as follows, viz :—

Resolved, That a Committee of five be appointed, to be called "The Committee on State Medicine," whose duty it shall be to report to the next Convention such subjects of sanitary importance as in their judgment require investigation or legislation, for their permanent improvement.

The first resolution was adopted without debate.

On the second, Dr. HARRIS, of New York, spoke. He said, that if he understood the resolution as it was generally understood yesterday, he should vote against it. It seemed to be supposed that the Committee which it provides for, were to do a work which the resolution does not contemplate having done by them. That is, that they should take the work out of the hands of the Convention, and do exclusively what belongs to the Convention collectively. That would certainly be very objectionable. Now, the resolution was not designed to accomplish any such thing. He said that he had himself been appointed, some months ago, to do a work with reference to the topography of the State of New York, for the purpose of indicating the malarious districts of the State. But it was a work which, though of great importance, he felt unwilling to undertake. Some one in the New York State Medical Society started the proposition for the investigation of that subject; and so there are in every association individuals who will start propositions of that kind. Since our organization, three years ago, many important subjects have been started without much previous reflection. Last year, the Committee that had charge of the

arrangement of business for the Convention were called to extemporize subjects for consideration. By a permanent Committee, like that contemplated by Dr. Ordrouaux's resolution, such subjects might have been presented in a better form. But I confess, now, said he, that I am responsible for all the improprieties of that Business Committee. All the good work done was by Dr. Jeffries and others, who were wiser than I. Some weeks ago, in conversation with Dr. Ordrouaux, I mentioned this subject, and we freely canvassed the ground which in the course of time sanitarians would need to examine in this country. What I really desired was, that there should be a Committee to do such a work as the resolution contemplates, as I understand it. It is, that a Committee should make a special study of the questions that most deeply concern the sanitary welfare of cities and States, that they should so state these questions as to present, in some simple and proper form, at a subsequent Convention, a few of the many propositions that will come before their minds, and that shall have been thoroughly considered by them. Thus, there will be before us a few of the most important questions that concern the public health. If this work had been done four years ago, we should not have attempted to go over so much at once as has been gone over, and our reports would have been on a more limited number of topics.

Now I apprehend that when we come together next year, we shall want one or two propositions presented to us, — perhaps one will answer, — either on the subject of drainage, or some more comprehensive question; perhaps on the subject of vital statistics, or something not fully included in Dr. Snow's able Report. I do not know what it may be. After we have canvassed the more obvious questions of public health, we have not got at the bottom of them. It has been said by Dr. Simon, in a recent essay, that much as we boast of progress in sanitary science, we are only at the threshold of the Temple of Hygiene. Those who follow us twenty-five years hence will see this.

[Dr. James Jackson, of Boston, was invited to take a seat on the platform at this time.]

Dr. HARRIS resumed his remarks. We should not, said he, prevent the opportunity for any one to bring subjects before the Convention. We need not exclude anything. A voluntary suggestion may be as good as one that comes before us in a more formal manner. But I am exceedingly desirous to commit no more such blunders as I committed last year, and that if any proposition is presented, it shall have been carefully considered. What the resolution contemplates, is, that a Committee shall consider what line of investigation may be most profitable. It may be that the Committee will not be able to present a single question, and perhaps they may present one, and recommend that a Committee be appointed to take it into consideration and report upon it at a future Convention.

The term "State Medicine" seems not to be well understood. It is a term which has become Anglicized, and is the best we can use. It is equivalent to a term first used, I think, among the Germans for the same purpose, — *Medicinal Polizei*, or the work of the State with

reference to questions of sanitary science. I am glad it is used, though I see it is misapprehended. The only great work we have upon the subject of the relation of the State to medical and sanitary science, is entitled "State Medicine," a very elaborate work, prepared by Dr. H. W. Rumsey, of England. I think, therefore, we should be warranted in employing that term, if the object of the Committee is not misapprehended in consequence of it. I should delight to find, this morning, that the Convention are willing to accept this view of the subject as the probable view of the Committee to be appointed.

Gen. MATHER, of New York, opposed the resolution. He thought the Convention was brought to the brink of a precipice by this resolution. He did not wish to speak as an alarmist, but as a plain, practical man. It had been said that it was scarcely to be supposed that laymen would understand the scientific terms employed in the resolution, but that gentlemen who have studied the matter would at once comprehend the phraseology which is used in it. If they were to do any good as a public body, and were to meet public sentiment and accomplish anything in this progressive age, which is practical, they must bring down their terms to meet the capacity of the ignorant class to which he himself belonged.

There had been various attempts made by different gentlemen to define what is meant by "State Medicine," and to bring it down to the common understanding. How had they succeeded? It had three godfathers at least; and no two of them agreed. The gentleman (Dr. Harris) had said that the Committee to be raised would not probably bring forward more than three topics for the consideration of the Convention; possibly not more than one. Then why not say so in the resolution? He considered it the same resolution which was originally introduced. It was a resolution that would undermine this Convention. He did not speak extravagantly, nor at random, in saying this. He was warranted by the manner in which the resolution had been presented. It was, in his opinion, a resolution to appoint a Committee of five to take in their charge the subject of State Medicine. How was that term defined? The gentleman who introduced the resolution last night, had said that it comprehended everything that relates to the general subject, not limiting it to particular geographical portions of the country, not limiting it by the continent. It is State Medicine. What is State Medicine? According to the gentleman's definition, it embraced that of England, France, and every country on the globe. Was the Convention prepared to vote into the hands of five men every conceivable subject for whose consideration this Convention was organized? It was an anomaly,—a monstrous one; it was a proposition to delegate to that Committee every subject that the Convention was supposed to consider. According to all parliamentary usage, in all deliberative bodies of which he had ever heard, it was the right and the duty of that body to keep everything within its own hands until it saw fit to specifically delegate a particular subject to a subordinate body or committee to consider.

Dr. ORDRONAUX was not aware, when he proposed the resolution, that he was to introduce discord into the Convention, as Satan did into

Paradise. He was sorry to find that the term "State Medicine" was not understood, and he would withdraw the resolution, if it was still in his power to do so. He appealed to the Chair to decide that point.

MR. J. M. WIGHTMAN, of Boston, a member of the Business Committee that had reported back the resolution this morning, thought it could not be withdrawn by the mover. It was now the property of the Convention. Mr. Wightman was proceeding to speak, and protesting against the withdrawal of the resolution, when he was called to order by Dr. Griscom, of New York, who made the point of order, that the only question before the Convention was, whether the resolution could be withdrawn, and appealed to the Chair to decide that point.

THE CHAIR said : It is a well-known fact that a resolution can be withdrawn by the mover before it comes into the hands of the Convention and the Convention act upon it. Afterward, it is different. If the question is raised, the Chair will decide it.

DR. GRISCOM. Is it in order ?

THE CHAIR will decide, if it is brought before the Convention.

After some further remarks by gentlemen, the Chair decided that the resolution could not be withdrawn.

DR. JEWELL. If I supposed there was anything behind the curtain in connection with this resolution, or that it was going to place this Convention upon the brink of a precipice, or was intended to substitute a Special Committee for it, I should coincide with what Gen. Mather has said against it. I look upon it as merely a suggestion that there shall be a Committee that will meet during the recess of the Convention and prepare business, and that when it reports it shall be for the Convention to decide whether the subjects brought forward in a careful manner, shall be the topics to be considered by the Convention for the following year. If it is anything more than that, I shall vote against it. There is a vast field for us to go over ; we all need information ; we want it from those who are capable of giving it ; we want to know where the most important matters are, upon which we can lay our hands,—those which are most important for sanitary legislation. When we have them before us, we can appoint Committees to report the following year ; not that this Committee is going to swallow up the Convention ; not that this Convention is going to yield an iota of power, and shut out those who are desirous to bring their views before it. It does not for a moment interfere with the privilege of the gentleman from New York to suggest subjects. This Committee makes no report upon any particular subject. These are my views of the resolution. I have my own views of what "State Medicine" means. It means, though Gen. Mather has rather ridiculed it, that it relates to every thing that bears upon sanitary reform.

DR. GRISCOM called for the previous question.

Mr. WIGHTMAN begged him to withdraw his motion for a few moments to give him an opportunity to explain his views, promising to renew the motion.

Dr. GRISCOM yielded to the request, and Mr. Wightman called attention to the terms of the resolution itself, to which he thought the discussion so far had had little reference. Is it not better, said he, that three or five gentlemen be selected, whose duty it shall be to keep a record of subjects which members may desire to have presented to the Convention from time to time, and to bring forward from them such as they may think important, than to leave the matter to every one who comes here with a subject that he has an idea ought to be discussed? Is it to be left to a Convention which is changing every year to bring forward subjects so important as the public health? No, sir. Let these gentlemen who have special subjects, which they desire to have investigated, come and present them. This resolution does nothing to prevent it. It simply provides for the appointment of a definite number of gentlemen, who are peculiarly qualified for the business, who shall bring forward subjects before the Convention, and suggest that a Committee be appointed on any subject which in their opinion involves the public health.

That is the whole question, whether there shall be a Committee whose business it shall be to see to the preparation of business for the discussion of the Convention. I renew the motion for the previous question.

The President then called Mayor Knight, of Providence, to the Chair, who stated the question before the Convention to be, whether the previous question should be ordered.

Gen. MATHER rose to a question of privilege. He claimed that he had the floor, and yielded it to a gentleman for explanation.

Gen. WETMORE called the gentleman to order, stating that the question was only on ordering the previous question.

Gen. MATHER. I disavow any such order.

The CHAIR. The Chair understands that the question is, Shall the previous question be sustained?

After some further irregular suggestions the previous question was ordered.

The question then recurred on the passage of the resolution, on which Gen. Mather called for the yeas and nays. They were ordered, and being taken, the resolution was passed,—yeas 46, nays 16.

Dr. GUTHRIE, of Tennessee, called attention to the fact that Hon. Edward Everett was in the hall, and moved that he be invited to honor the Convention by taking a seat on the platform. (Applause.)

On taking his seat on the platform, Mr. Everett said:—

I am greatly indebted to you for this unexpected compliment. I came here as one of the citizens at large, to be instructed in your pro-

ceedings. I am very sensible of the honor you have been pleased to do me in asking me to take a seat on the platform. (Applause.)

Hon. MOSES KIMBALL, of Boston, said he was sorry to be deprived of the privilege of expressing his views on the passage of the resolution, by the motion of the Chairman of the Committee for the previous question,—a most unprecedented motion for the Chairman of a Committee to make on his own report. And then one of his associates had helped to put on the gag-law.

As he understood the resolution, it would not accomplish what was claimed for it. The matter was fully discussed yesterday, and a motion to lay the resolution on the table failed, and then it was referred to a Committee. But here comes the same Monsieur Tonson again, who was objected to yesterday afternoon. It is now proposed to appoint a Committee to report subjects to be considered. They are to come in with a list, recommending that Committees be appointed upon such and such subjects. It is objectionable in other respects; it monopolizes all the business of the Convention; for the Committee and not the Convention are to report at once upon subjects which they may deem important, which subjects this Convention might not deem important to send to Committees.

I am sorry, because you will lose subjects which gentlemen wish to present, and which might not come from this Committee. A gentleman has said it will not exclude anything. That is my objection. It embraces everything. There might be brought in all manner of sanitary measures. The gentleman is exactly right; it don't exclude anything; it gives this Committee power to go and glean out the bright sheaves which are referred to other Committees. The gentleman says it does not recommeud anything specifically. There I object to it again. It will not bring forth anything at all, or, if anything, it will be a still-birth.

I think this resolution should go back to the Committee. Then pass the original resolution of Dr. Ordronaux, and place him on the Committee. When that Committee report, let the Chair select gentlemen who are familiar with the subjects which are to be considered.

This unaking up a sort of mutual admiration arrangement, by which i ve gentlemen are to dictate what is to be considered and what not, I object to. I wish that every gentleman may ask to have introduced any subject that he may deem important. Let each subject be referred to a proper Committee. I do not think all the wisdom in creation is confined to the brains of gentlemen who are dubbed with a title. I do not believe that M. Ds. or D. Ds. possess all the information in the world. If they would be willing to be taught by common men, who look with common eyes, and to receive the suggestions of such men, they would abandon some of their present notions, and a better state of things would exist. I mean no disrespect to those able gentlemen; but I submit that there are, outside of their ranks, those who may be able to give them suggestions which may be valuable to them.

I have heard no objection to the resolution which was reported last night. And if any reasons have been given why the modified resolu-

tion should be adopted, there has been no opportunity given for others to reply, inasmuch as the Committee moved the adoption of the previous question. I hope the Convention will have an opportunity to consider the matter fully, and that the vote will be reconsidered. I therefore move the reconsideration of the last vote.

Dr. GRISCOM. I take the floor to answer a personality, and at the same time to explain the course of the Committee. In consenting to occupy the onerous position of a member of the Business Committee, taking up much extra time, and depriving myself during this visit to Boston, of the opportunity of seeing many of its curiosities, and places of interest, I did not suppose I was depriving myself of the privileges of a member of the Convention; and that I should be accused of trying to cut off debate (already protracted) while my sole motive was to save time, so as to have an opportunity to go home in season, is, I think, a charge that I should repel as it deserves.

If the honorable gentleman — for I understand he is a member of the Senate, and in that capacity is honorable — had been here yesterday afternoon and this morning, and heard the discussion on the resolution, he would not have made the gross insinuations he has in his remarks. It is without the slightest foundation that he has made another mistake. He has told us that this Committee is to report subjects for next year, and that there will be nothing for the Convention to do. I beg pardon. The Convention will have several reports. The President has already appointed several Committees who will report next year. And this Committee will have to report also. The next Convention will have plenty to do to receive reports of Committees appointed this morning. This is merely a Business Committee to bring forward business next year. The Business Committee this year did not have time, and the Committee on State Medicine is to prepare business. The name seems to be a stumbling-block; but it is a term which should be learned by the people. They will know it before all of us go into the grave. I think the subject has been sufficiently discussed; and, although I may be charged with usurping a position here which I should not, I move to lay the motion to reconsider on the table.

The motion was agreed to, 22 to 21.

Dr. GUTHRIE, of Tennessee, moved that a Committee be raised on the resolution just passed; and said that this was the first time he had had an opportunity to offer an explanation of the report of the Business Committee, and he wished, since it was decided to have a Committee in accordance with that Report, that the nomination might be made in the Convention at large.

Dr. HARRIS, of New York, seconded the motion of Dr. Guthrie. Though he believed a good Committee would be appointed by the Chair, yet there was an impression on the part of some that it would be an *imperium in imperio*, and would be a bad power. He had a strong desire that the Convention should be a popular body, and if the members of the Committee could be elected by the Convention, in

open session, it would help to relieve the subject from the wrong view that has been taken of it.

The motion was agreed to, and the following gentlemen were nominated :—

Dr. John Ordronaux, of New York ; Moses Kimball, of Boston ; Gen. Mather, of New York ; Dr. Jewell, of Philadelphia ; Dr. A. N. McLaren, of the U. S. Army.

Dr. JEWELL peremptorily declined to serve on the Committee, giving as a reason, that there was a great dissatisfaction on the subject of the resolution, which had come to his ears. He could not serve on the Committee when he knew it would be a divided body.

Dr. Jewell was excused, and Dr. A. La Roche, of Philadelphia, was nominated in his place.

Dr. BELL, of Brooklyn, moved that speakers be limited to five minutes each, during the remainder of the session, which motion was passed.

Dr. ORDRONAUx asked to withdraw his name as Chairman of the Committee just raised, and from the Committee itself, from the fact that the purity of the motives of those who saw fit to support the resolution, had been questioned. He did not wish to contend with men for the poor privilege of doing them a favor. As he could not sit in that Committee with his skirts pure, except in his own conscience, and inasmuch as there was a division of opinion as to the expediency of having such a Committee, he would ask to be excused from serving on it.

Mr. WIGHTMAN, of Boston, hoped there would be such an expression by a vote of the Convention, as would induce Dr. Ordronaux to withdraw his request to be excused. They needed and must have his experience on the Committee.

Dr. STONE, of Boston, concurred in the hope expressed by Mr. Wightman. He hoped the gentleman would be retained by acclamation.

Dr. STEVENS, of New York, expressed the hope that the era of good feeling which had so eminently distinguished the Convention, had returned, and that his friend, Dr. Ordronaux, would be induced to reconsider his purpose and withdraw his request. Without meaning to flatter the gentleman, he said they could not spare his services. (Applause.)

Dr. ARNOLD, of Savannah, said, that as the sense of the majority of the Convention had gone against his views with regard to the resolution, he bowed to the decision. And now, as the Committee was to be raised, every principle of parliamentary usage required that Dr. Ordronaux should be the Chairman. He hoped it would be unanimously voted to him. (Applause.)

The Convention unanimously refused to excuse Dr. Ordronaux.

Gen. WETMORE, of New York, then rose and said :—

Mr. President : We are approaching the termination of our labors ; useful, I trust, they will prove to have been ; and the excitement which may have grown out of special acts, I trust will pass away with the occasion. The last vote is auspicious of the return of good feeling. It was eminently a just decision, as well to the Convention at large as to the gentleman whose name is associated with the movement.

There is a duty which remains for us to perform, and one portion of it has fallen to my hands. The Convention assembled in this city upon the invitation of its mayor. We came here, sir, simply to discharge a duty of business,—of business which affected the whole community and the country, in which some of us felt a deep interest, and in which all who have assembled here have evinced a corresponding solicitude. I trust that this will not prove to have been a contemporary organization, that it will not speedily pass away, but that the time is not far distant when the permanent establishment of a society devoted to the interests of sanitary science will be accomplished.

We came here simply to meet the citizens of Boston as business men, and we only expected such accommodations as could be conveniently offered for the dispatch of business. But from the time we entered the bounds of the city until the present moment, we have received nothing but the warmest expressions and kindest courtesies of its citizens. The time has come for the public acknowledgment, by the members of the Convention, of the hospitality which has been extended to them. (Applause.) The affluence of these courtesies renders us bankrupt of thanks. We cannot sufficiently express, in the plain language of a resolution, all that we owe to the authorities of Boston.

We had the opportunity, yesterday, of visiting some of the institutions which owe their organization, their nourishment, and support, to the Councils representing the City of Boston ; and, coming as I do from a city supposed to be somewhat proud of what it has received from the hands of nature, and what it has done to improve the beneficent kindness of Providence in regard to location, I must confess to you that what I saw yesterday made me very doubtful whether it has any advantages at all over the city of Boston. I saw Massachusetts Bay, which I looked upon for the first time in my life, with emotions which I cannot express. I saw the waters upon which floated the tea as it was thrown over by the hands of patriotism before we had a national name. Sir, no American can look upon that bay and forget its history. I saw the islands devoted to charity and benevolence, and could not but notice the admirable manner in which all the institutions designed for such purposes are managed and conducted by the authorities of Boston. If I required any definite reasons for feeling proud of my native New England, I found them in the evidences before me of an active spirit of enlarged humanity.

These are the considerations, briefly and imperfectly stated, why I shall offer the resolution which I am about to read ; and I call upon my associates to give it a hearty support, as I know they will do.

Resolved, That the thanks of this Convention are due and hereby tendered to the City Councils of Boston, for the noble-spirited hospitality and graceful courtesy extended by them to the members of this Convention, during its present session in this city.

Dr. JEWELL. I rise at this moment to present a resolution to which I know the whole of this body will cordially respond : —

Resolved, That the thanks of this Convention be presented to our President, for the admirable manner in which he has presided over it.

The resolution was adopted unanimously.

Dr. GILMAN, of Baltimore. I move that the thanks of this Convention be presented to the Massachusetts Charitable Mechanic Association, who have kindly and generously offered us, gratuitously, the use of this beautiful hall. Adopted.

On motion of Dr. Griscom, the thanks of the Convention were tendered to Dr. Calvin Ellis, for his efficient performance of the duties of Secretary.

Dr. JEWELL then called up his resolution, offered yesterday, in regard to the non-transmission of yellow fever, and remarked that he had not a word to say in reference to the reaffirmation of the sentiments of the last Convention. He wanted the preamble and resolution to stand or fall upon their own merits.

The question was then put, and the preamble and resolution were adopted unanimously.

Mr. G. H. SNELLING, of Boston, rose to offer a resolution, which he introduced with the following remarks : —

On Saturday last, I was passing through one of our streets, on my way to call upon a member of the Legislature, when I was overtaken by a shower, and found refuge in a carpenter's shop. After a few moments of conversation upon general subjects, such as the effect of planing machines, &c. upon labor, I alluded to the subject of the division of the hours of labor, and the very intelligent person with whom I was conversing remarked to me that it would be of great advantage if they could have a half hour added to the hour usually allowed for dinner. "We could begin work," he said, "at half past six, instead of seven o'clock, and that would give us an hour and a half of recess for the midday meal. We work often at a great distance from our boarding-places, and we are obliged to run to our meals and return in great haste. I have to look after the tool-chest, and I must be there, or I shall be complained of. If I could have half an hour of rest, my work would be much more efficient, but as it is, for two or three hours, I am not fit for work." In view of this fact, I think it would be proper for an association like this to recommend to master mechanics a change in this respect, and I therefore propose this resolution : —

Resolved, That this Convention earnestly recommend to master mechanics to adopt such a division of the hours of labor, for those in

their employ, as will allow of an hour and a half, instead of an hour, as is now customary for the midday meal.

I consider that that half hour after the meal would be a reservoir of strength. It is not proper for me, not being of the medical profession, to enter into the physiological reasons of this, but I presume it is generally acknowledged. I remember an incident which a gentleman reported to me of a near relative of Dr. Andrew Combe, who came over to this country to take charge of a brewery establishment. He chose to remain at his midday meal longer than was customary, and his employers began to remonstrate, and said, "We must cut down your salary." "Do it," said he; "I would rather have less salary and a longer life."

These laws of our organization are immutable. We have no alternative but to conform to them. In this connection, I cannot but repeat what a friend of mine, whose death every one laments, Horace Mann, once said to me. "There is a game which boys frequently play in the country, in which, seating themselves on the ground, with their feet planted one against another, and a stick held in their hands, each endeavors to pull the other up. The game is called "pull-stick." "You can't," said Mr. Mann, "*pull-stick* against God! He'll throw you — over the orbit of Jupiter!"

I consider that those gentlemen, the master mechanics of Boston, who have built this beautiful monument to their skill and taste, and to whom we have just passed a resolution of thanks, would build a nobler monument to their humanity by the adoption of such a measure.

Dr. STEVENS seconded the motion, and said : —

It is well known that the digestion of food especially when taken hurriedly, and to the extent of a full meal, is entirely suspended by violent exercise or hard labor,—not less in man than in dogs and horses. Allowing one hour as the shortest time from the commencement of a sufficient noon-day meal to the resumption of labor, the present interval may appear unobjectionable. But in point of fact, the laborer often goes some distance from the place of his work and must return to it again within the sixty minutes. If pressed for time, he is tempted to prepare himself for his afternoon work by taking only half a dinner or no dinner at all; making matters right by strong drink. This leads to intemperance. In my boyhood I knew a drayman, a man who was occupying a very confidential and profitable position with an eminent merchant, during a period of great pressure in the unloading of a vessel, with a retinue of other draymen under his direction. In his zeal to expedite the job, on one occasion, after having taken only the ordinary allowance of spirits, he hurried to his work without touching his dinner. Intoxication was the result, and with it the loss of place, the loss of character, and ultimate ruin. The merchant would have forgiven and retained him, but he was humiliated, his self-respect was gone, and he was a ruined man. This case made a strong impression upon my own mind, and I have heard of many others more or less like it.

How far the lengthening the nooning interval would tend to correct

the evils of hasty dinners, and the too speedy resumption of labor afterwards, I am not prepared to say, but inquiries in this direction will be useful. I shall therefore cast my vote for Mr. Snelling's Resolution.

Dr. GRISCOM. I regard this subject as of too great importance to be dismissed by this Convention by the simple adoption of Mr. Snelling's resolution. I trust I may be allowed to introduce another:—

Resolved, That this resolution be referred to a Special Committee, of whom the mover shall be the chairman, to report at the next Convention, giving the reasons, *in extenso*, why it should be adopted.

Dr. JEWELL. I like the motion of my friend Dr. Griscom. I had intended to make a similar remark, that this was too important a subject to be disposed of hastily, and it was my intention to move, as an amendment, that a Committee of three be appointed to consider and report upon the best plan for such a division of the hours of labor among all classes of the community as shall be promotive of health. I think if we can have the services of the mover of that resolution, who, I understand, is deeply interested in the subject of sanitary reform in this city, we shall have a report which will do credit to our efforts in this great work, and which we shall be better satisfied in sending abroad to the world, rather than to pass it in the simple form of a resolution, which will never reach the eyes of those interested.

Mr. C. C. SAVAGE, of New York. I think it would be found that the resolution, if adopted, would be too local. The mechanics in New York would not be governed by such a resolution as that. The habits of life, and of living away from their work, would be found to interfere with such a plan. But, by referring the resolution to a committee, it could then be seen what alteration might be made, so as to adapt it to various localities.

Dr. CURTIS. I hope that the resolution may be made sufficiently broad to include the hours of study in school, and the propriety of giving studies to be pursued out of school hours.

The amendment proposed by Dr. Jewell was adopted, and the resolution then passed.

Dr. MEAD, of Cincinnati, extended a cordial invitation to the Convention to hold its next session in that city. He believed that the usefulness of the Association would be vastly extended by taking that locality as the place for its next meeting.

Dr. JONES, of Brooklyn, stated that the Mayor of that city had authorized him to extend an invitation to the Convention to meet there next year. He could promise the Convention, if the invitation was accepted, an effort, at least, on the part of the authorities of Brooklyn, to receive them in a manner that would not contrast unfavorably with the reception they had received in Boston.

Dr. BELL, of Brooklyn, seconded the invitation tendered by Dr. Jones.

Gen. MATHER. I avail myself of the first opportunity, without interrupting other gentlemen, to call the attention of the Convention to

the fact that I was appointed to the Committee on State Medicine, and to state that I most heartily and earnestly desire, not from any affectation, or any peculiar sensitiveness, but for reasons best known to myself, to be excused from serving on that Committee.

On motion, Gen. Mather was excused, and Dr. Guthrie nominated Dr. Robert Thompson, of Ohio, to fill the vacancy, stating that he was a gentleman located further west than any other named on the Committee, and one who could bring a great many new subjects into the discussions of the Convention.

Dr. THOMPSON declined, on the ground that he was not acquainted with the scope of the subject.

Gen. MATHER offered the following resolution : —

Resolved, That nothing contained in the resolution relative to the appointment of a Committee on State Medicine shall prevent this Convention from referring, at any time, any matter embraced therein, to any committee or committees, nor prevent any individual from bringing proper matter before the Convention.

Dr. GRISCOM. There is no objection to the resolution, except that it is entirely unnecessary. We have a perfect demonstration of the truth of what I say, in the fact that Mr. Snelliug's motion has been already referred to a special Committee, after the passage of that resolution on "State Medicine."

The resolution was adopted.

Dr. E. B. ELLIOT, of Boston, offered the following resolution, which was adopted :—

Resolved, That a Committee of five be appointed, to report a uniform plan for maps of the physical geography of cities for statistical and sanitary purposes, with a view of obtaining the construction of such maps by the several municipal governments.

Dr. GRANT, of New Jersey, offered the following resolution, which was adopted :—

Resolved, That this Convention, as one of the means of sanitary reform, urges upon the municipal authorities and boards of health of the several States, to collect and carefully arrange complete statistics of births, marriages, and deaths, and also of disease, meteorology, and epidemics, except in cases where this work is provided for.

On motion of Dr. BELL, it was *voted* that two members be added by the Chair to the Committee on External Hygiene.

Dr. GRISCOM. An order was passed yesterday, referring a subject to the Committee on Civic Cleanliness. It is therefore necessary that that Committee should be continued, and I make a motion to that effect.

The motion was adopted.

Dr. SNOW, of Providence, offered the following resolution, which was adopted :—

Resolved, That the thanks of this Convention be presented to the Board of Directors of Public Institutions of the City of Boston, for the pleasant excursion which has afforded us an opportunity to visit these institutions, and for their princely hospitality, which we have so much enjoyed.

Ald. CLAPP, of Boston. I hold in my hand a resolution which I propose to offer, and which I shall claim the right to withdraw if it leads to any discussion. In looking at the printed reports presented to the Convention I notice three different forms. It is very desirable, with reference to convenience and economy, that a uniform page should be adopted, and I have prepared a resolution for that purpose. I will say, in passing, that if gentlemen will look at the reports of the English government, and of English societies of this character, they will obtain hints of value in relation to this matter.

Ordered, That the Business Committee be requested to consider the expediency of recommending a standard page, on which all reports, papers, or addresses, to the Convention, shall be printed, in order that the same may be bound in volumes of a uniform size.

On motion of Dr. LYMAN, of Boston, it was *voted*, that Dr. J. B. Alley, Superintendent of the Boston Dispensary, be added to the Committee on Dispensaries.

On motion of Dr. BELL, the thanks of the Convention were voted to Mayor Lincoln, not only as Mayor, but as Chairman of the Executive Committee.

Dr. GRISCOM. By the courtesy of Dr. Clark, of Boston, I have in my possession a few copies of a volume entitled "Bell's Sanitary Report." It comprises three papers presented to the Convention last year, which have been put in a separate form at the expense of the Common Council of New York, and several other cities—Troy, Boston, Providence, Baltimore, Philadelphia—have subscribed for large numbers of this work, to be distributed gratuitously among the people. It is a volume which those who have read must acknowledge has not its equal in the presentation of the subject of internal hygiene to the good sense of the mass of the community; and I hope that every city of the United States will find itself at liberty, in some way or other, to purchase a sufficient number of copies of this book to distribute among the people, or that there will be a subscription raised among the citizens, if the authorities of any city do not feel at liberty to appropriate money for that purpose. It is furnished at the very low price of fifty cents a copy. No work can be put into the hands of ordinary readers better calculated to do good, upon the great subject for the consideration of which this Convention is organized.

On motion of Dr. JEWELL, it was *Voted*, That the next meeting be held in Cincinnati, on Wednesday of the last week in May.

Mr. SHANNON moved that a Committee of ten be appointed to make arrangements for the next meeting.

Dr. JEWELL moved to amend by the addition of the words, "and that Dr. Mead, of Cincinnati, be chairman."

The amendment was adopted, and the resolution passed.

On motion of Dr. GRISCOM, G. H. Snelling, Esq., of Boston, was invited to read a paper in his possession, a translation (in part) of a German essay on the climate of the United States and Germany, comparing their effects on the health of man.

Mr. SNELLING read some extracts from the translation referred to, and Dr. GRISCOM moved that Mr. Snelling be requested to complete the paper, and that it be published in the Transactions of the Convention.

Mr. KIMBALL, of Boston, said he had not a word to offer against the essay; it might be the best in the world; but he would suggest whether it was not an unexampled proceeding, and rather a dangerous precedent to be set, to print a paper which was not yet completed, without a reference to the Business Committee.

Dr. GUTHRIE moved that the subject be referred to a Committee, of which Mr. Snelling should be chairman, to report at the next session.

Dr. GRISCOM. This is not a subject to be disensed. It is, like Dr. Harris's paper, read yesterday, simply a voluntary offer of a paper of an interesting scientific character. I think it should go to the people of the United States.

Dr. GUTHRIE thought it would never do for the Convention to forestall its action by accepting an unwritten and unpublished paper, and authorizing its publication in their Transactions. He thought the remarks of Mr. Kimball eminently proper.

Mr. SNELLING said that nothing was further from his intention than that the paper should be printed. He merely read it as a matter of interest to the Convention. He fully agreed with the suggestion of Mr. Kimball, as to the inexpediency of having it printed.

Dr. GRISCOM moved that the paper of Mr. Snelling be referred to a Committee, of which Mr. Snelling should be a member, Dr. Curtis another, and the President nominate a third.

The motion was agreed to, and the President nominated Hon. Josiah Quincy, of Boston, and the nomination was accepted.

The President then announced the following Committees:—

Committee on Tenement-Houses. S. B. Halliday, New York; Dr. Josiah Curtis, Boston; Dr. W. B. Bibbins, New York; Dr. H. G. Clark, Boston.

Committee on the Hours of Labor. George H. Snelling, Boston; S. B. Halliday, New York; J. C. Knight, Providence.

Committee of Arrangements for the ensuing year. Dr. Edward Mead, Cincinnati; Mayor Bishop, Cincinnati; Nicholas Longworth,

Cincinnati; Dr. M. B. Wright, Cincinnati; R. B. Bowler, Cincinnati; J. M. Wightman, Boston; Wm. Taylor, Philadelphia; Dr. Judson Gilman, Baltimore; R. H. Shannon, New York; P. M. Wetmore, New York.

Additional Members of Committee on External Hygiene. Dr. R. D. Arnold, Savannah; Dr. H. G. Clark, Boston.

The President stated that he had just received a document from Dr. Sterling, of New York, which purported to be an amended copy of the printed Report on Wet Docks, which had been submitted to the Convention, and which had been referred to the Committee on External Hygiene. If no objection was offered, the amendment document would take the same course with the original report.

No objection was made, and the paper was thus disposed of.

On motion of Mr. Shannon, the following resolution was adopted:—

Resolved, That the thanks of this Convention be, and hereby are, tendered to the several individuals, societies, and institutions of the city of Boston for their kind hospitalities to the members of this Convention, individually and collectively, during its present session.

Dr. GRISCOM, from the Business Committee, reported that the Committee appointed last year on the subject of the Nature and Causes of Miasmata should be discharged, and a new Committee raised, of which Dr. Thompson, of Ohio, should be Chairman, and he suggested the continuance of the other members of the Committee.

The report was accepted, and the recommendation adopted.

Dr. BELL, in order to carry out the second resolution of the Committee on External Hygiene, offered the following resolution:—

Resolved, That the Committee on External Hygiene have power, and be directed, to select a suitable person from each State not represented in this Convention to aid in carrying out the objects of the second resolution of their report.

The resolution was adopted.

On motion of Mr. Wightman, of Boston, Dr. H. G. Clark was added to the Committee on Tenement-Houses.

Mr. WIGHTMAN then moved that the thanks of the Convention be tendered to the corporation and gentlemen of the cities of Brooklyn and Providence for the invitation to the Convention to hold its next session in their respective cities, with the expression of the hope hereafter to accept the invitations so kindly and generously tendered.

The motion was carried.

Dr. THOMPSON, of Ohio, in behalf of his State and city, thanked the Convention for the honor conferred upon them by selecting Cincinnati as the place for the next meeting of the Association; after

which the President, Dr. Bigelow, addressed the Convention as follows :—

GENTLEMEN OF THE CONVENTION : For the kind expression of your good-will towards the Chair for the imperfect performance of the duties of the office, you will accept my heartfelt acknowledgments, with the understanding that your thanks are to be divided with my able and intelligent colleagues in office, who have so efficiently and so beneficially aided the proceedings of the Convention by their official services.

Gentlemen, it would now remain for me, wishing you a prosperous and happy return to your respective homes, to express to you a reluctant and heartfelt adieu, were it not that, in common with the other members of this Convention belonging to the city of Boston, we anticipate another, and we trust more agreeable reunion in the festivities of the afternoon. (Applause.)

On motion of Dr. Griscom, the Convention then adjourned *sine die*.

SPEECHES

AT THE

COLLATION AT DEER ISLAND.

COLLATION AT DEER ISLAND.

On Friday, June 15, the Convention, by invitation of the Board of Directors for Public Institutions of the City of Boston, visited the House of Industry at Deer Island, where are also located the House of Reformation, and the quarantine establishment, of Boston. Leaving the city by steamer, the Convention, accompanied by the City Council of Boston, proceeded to the Island, first stopping at Rainsford Island for a brief inspection of the Hospital there supported by the State of Massachusetts. At Deer Island the party were conducted over the institution, after a satisfactory examination of which they sat down to a collation.

After the collation, Mr. Joseph Smith, President of the Board of Directors, rose and said :—

Gentlemen of the Quarantine and Sanitary Convention :

In the name and in behalf of the Board of Directors, to whom the City Council of Boston have intrusted the oversight and management of this and some other institutions of the city, I bid you welcome. The city of Boston, gentlemen, has always felt a conscious pride in the character of its public institutions, and has always provided liberally for their support,—not only, gentlemen, for those of a penal, but for those of an educational and of a charitable character. This, gentlemen, is not entirely and strictly a penal institution. Indeed, it may be said to comprise two, if not three, distinct institutions. The House of Industry, as originally established, was entirely a charitable institution ; but of late years, since its removal to this island, persons have been sent here for trivial offences, such as drunkenness, night-walking, and similar offences. These, however, have been kept wholly distinct from the virtuous poor. You will see, therefore, that the House of Industry, of itself, comprises two distinct classes of inmates—the virtuous poor, who have a claim upon the city of Boston for their support, and those persons to whom I have alluded who have been sent here for crime. In addition to these, gentlemen, we have in this establishment a House of Reformation for juvenile offenders, of both sexes. The boys of this institution were those whom you saw upon your landing, in dark clothing. The boys and girls of this House of Reformation are furnished with most excellent schooling ; and the boys, such of them as are able to work, are employed in working upon

the farm, the manufacture of shoes, and like employments. This institution is entirely distinct from the House of Industry, being under a different head. Then, again, gentlemen, we have what has been called the "Boylston School." These were the boys whom you saw on the wharf, as you landed, dressed in light clothes. These may be considered, perhaps, a part of the House of Industry, being under the same direction, and under the same head. Perhaps some of you may have formed an opinion of the *body* of that institution, having seen its *head*,—Dr. Moriarty. (Laughter and applause.)

We welcome you, gentlemen of the Convention, as public benefactors,—as gentlemen engaged in a great public work, that of preserving and protecting the public health, than which nothing can be of greater importance. This, gentlemen, undoubtedly opens for you a wide field. Such subjects as imperfect drainage, imperfect ventilation, and inconvenient and unhealthy lodging-houses, are for your consideration; and I doubt not, gentlemen, that the time will come when the subject of paving and widening the streets will be considered by conventions such as yours, as affecting the public health. Nor, gentlemen, is the subject of quarantine regulations of less importance than the others to which I have alluded. In former years, the quarantine regulations have been of a very stringent and onerous character, such as imposed upon commerce very severe restrictions,—may I not be allowed to say, gentlemen, *unnecessary* restrictions? I think it has been so, within my recollection. I can remember to have seen, within gunshot of where we are now sitting, forty or fifty vessels lying at quarantine, each with a little red flag flying, to indicate that they were in quarantine. These vessels had probably left some of our southern ports during the sickly season, and although, perhaps, not a single case of sickness had occurred on the whole voyage, still, the law required that they should ride at quarantine here for thirty days. Now, men see that these restrictions were onerous upon commerce. They were not relaxed, however, in the slightest degree, until a more considerate policy was adopted by some other cities. When it was found that vessels coming from southern ports during the sickly season would take freights to some of the ports where the laws were less stringent than ours, then it was found by the inhabitants of Boston, and by its municipal officers, that unless these regulations were relaxed, they would drive from our city the commerce which we had so far obtained. It is very evident that it would not be proper, that it would not be safe, to abolish all quarantine regulations; hence the necessity for the meeting of such conventions as yours, for the purpose of devising a regular and uniform system for the regulation of this matter.

If the restrictions to which I have referred existed now which were in operation some thirty or forty years ago, and a more liberal policy were pursued by some of our more eastern cities, such, for instance, as Portland and Portsmouth, much of the commerce which now comes to Boston would be diverted from this city, and go to those other cities which entertained a more liberal policy in regard to quarantine regulations, and would be brought to Boston on the railroads which centre there. You see, therefore, that these restrictions have been exceed-

ingly onerous upon commerce; and wherever you restrict commerce, there you restrict its handmaids, civilization and the standard of the Cross,—for they generally go together, or, rather, the one follows the other. (Applause.)

It would be presumptuous in me, gentlemen, to undertake to discuss this question to which I have alluded, in this presence. It is not my province,—it is not my purpose. Therefore, gentlemen, I will again bid you welcome to the city of Boston, trusting that your visit may be as pleasant and agreeable to yourselves as it has been acceptable to us. (Applause.)

I propose, in conclusion, to offer the following sentiment:—

The National Quarantine and Sanitary Convention of 1860—May the benefits of its deliberations and labors be commensurate with the character, science, and skill of its members and prepare the way for measures of sanitary reform which shall be for the “healing of the nations,” to the latest posterity. (Applause.)

Gentlemen, it was expected that Dr. BIGELOW, the President of the Convention, would respond to this sentiment; but, in his absence, I have the honor and pleasure to introduce to you Mayor ARNOLD, of the city of Savannah. (Applause.)

A VOICE. There is no disunion in that! (Laughter, and renewed applause.)

Mr. SMITH. Mayor Arnold, first Vice-President of the Convention, will now address you.

Mayor ARNOLD, spoke as follows:—

Mr. Chairman, Gentlemen of the Quarantine and Sanitary Convention, and Fellow-Citizens of Boston:

The first idea which came from the recesses of my memory when the honored gentleman on my left called upon me, in the absence of my venerated, venerable, and respected friend, Dr. JACOB BIGELOW, whom I have been accustomed for long years to look up to as one of the lights of medical science, (applause,)—my first thought was of the remark once made by Decatur when he was complimented for his gallantry. He said, “There are many gallant spirits in the navy; all that is wanted is *opportunity*.” (Applause.) Now, I am, at this moment, the happy child of Opportunity! (Renewed applause.) The absence of my respected friend, Dr. Bigelow, has most unexpectedly devolved upon me, as the next presiding officer of the Convention, the duty of addressing this large, and may I not say, in words of truth and sincerity, intelligent, and intellectual audience. If I did not feel thankful, at the bottom of my heart, for this opportunity, I would not give utterance to the sentiment with my lips. It is one of the great illustrations of what the pervading spirit of the age accomplishes, wanting a great central head of government, and thank God we do want it! for the central head of a great government is the electrical battery of Despotism, which prostrates everything before it. (Applause.) But we have an independent, self-existing vitality. We show, in spite of the mixture of races that is spread over our Union, that we have always looked up to our old English institutions, and

that the basis of that has been Representative Government, (applause,) never the "fieree demoeraeie of Athens." Gentlemen, in my old college days, (and God knows they were long ago,) one of the rules of logie was, Never compare dissimilar things. Men running after starting and mystical analogies very often run away from reason and common sense, and may be told, as Agrippa told Paul, "Too much learning hath made thee mad." (Laughter.) What comparison is there between a small demoeraey which could meet where a Demosthenes could address them, and our wide-spread Union? I want you to look baek to our history; I want you to see our origin. I say our great principle is that of local governments, from our townships which yet illustrate here in New England, to our city and State governments, until we have given to the world a great system; we have exemplified, so far, the possibility of governing a great nation upon the representative principle. (Applause.) We have a number of State sovereignties, (don't be afraid, gentlemen; I am not going to shed one drop of the bitter waters of politics here.) (Loud applause.) I am only speaking of the great principle of assoeiation, acting by delegated power, and on representative eapaeity. Gentlemen, we have a saying at the South, where we do not use oars, but paddles, and a fellow goes out paddling himself along in a dug-out, "Let every fellow paddle his own canoe." (Laughter.) Now, I say, gentlemen, whether you steam at the North, paddle at the South, or cross the prairies at the West, "let every man hoe his own row, shinning his own side!" (Laughter.) Now, the basis of the prosperity of this Republican Union, which I hope I may be allowed to say, devoutly, sincerely, before Almighty God, I think, so far, has been the most successful instance of self-government which he has ever permitted to be shown on his earth; (applause, and cries of "Good," "good!")—I say its basis is the great principle of each State taking care of itself,—the great principle of association. Then we come up as coequals from different States. We have set the example, in the medical association, by the inauguration, fourteen years ago, of that Assoeiation. But, gentlemen, there was something behind that. Agrienvlture, commeree, and manufactures are the three grand bases on which are built the prosperity of a country. I represent agrienvlture and commeree. Gentlemen, at the South, we are not a mannafturing people; we don't want to be. Probably there are some of you so old-fashioned as to have heard of a certain man named Adam Smith, who wrote once on Political Eeonomy,—and among other new-fangled notions that he illustrated was this: that it was much cheaper to import wine from Oporto, in Portugal, than to raise it in hot-houses in London. Now, I am here the only delegate from Georgia. Quarantine is a matter of much importance, because we have a great port of entry, which is the commercial metropolis of Georgia, and that is Savannah, whose representative I have the honor to be to-day. (Applause.)

From the moment I read the proceedings of the first Qnarantine Convention, which my friend on my right, Dr. Jewell, of Pennsylvania, (applause,) has the honor of having originated, I felt an interest in the subject; and when the time for the second meeting ap-

proached, I waited upon the then mayor of our city, and I was appointed a delegate to Baltimore. But that is merely a personal matter. I say that, as a citizen, a man representing the South, a man representing commerce and agriculture, I felt interested in the movement, which, for the first time, I saw had been taken in the right direction to free Commerce from those shackles which had well-nigh crippled her, and would have done so, but that the energies of Commerce are boundless. (Applause.) Whether this should prove our last session, whether we shall be *functus officio* or not, the results of the deliberations of last year have been of incalculable benefit. In my younger days, I had for several years the duty of Health Officer of the city of Savannah imposed upon me, and I used to say, particularly after a certain circumstance that occurred, when an excellent old aunt of mine was quarantined at New York because she had the gout, (merriment,) and I said, at the time, the man's diploma, if he call himself a doctor, ought to be torn into bits, and flung in his face; I used to say, I repeat, that I believed the quarantine system, appealing as it did to the worst prejudices and fears of the people, had been productive of the greatest evils to commerce. For years I have had the honor of acting, at different times, in the municipal council of Savannah, and my voice, in public and private, has always been against useless quarantine regulations, and I felt, when I landed upon your shores, although but an estray, a mere waif from the Gulf Stream, that I was following a great principle with you. When I heard the sentiments uttered to-day in the Convention, and when I read the report of last year's meeting, I thanked God that at last common sense had got ahead, and had gagged and bound abstract theory. (Applause.) Now, the Convention, in addition to quarantine measures, have adopted sanitary measures. Shall I "gild refined gold?" Does not every man feel in his microcosm—that part which, in civilized countries, he carries inside of his clothes—does not every man feel the want of it? Then I say we are not a State Association, nor a National Association, but a world-wide Association; and if I were to choose a design and motto for this Convention, should it be made perpetual, I should say, let it be the figure of a man extending a wand of help to a suffering mortal, with the motto, "*Homo sum, nihil humanum a me alienum puto.*"

Dr. Arnold took his seat amid loud plaudits, which were followed by three cheers for Georgia. The band then played, "Oh, carry me back to Old Virginia," which was received with enthusiastic cheers.

The next regular toast was then read, as follows:—

The first National Quarantine and Sanitary Convention, which assembled in the city of Philadelphia, in 1857—It presented to the friends of sanitary reform a rare *Jewel*, (applause,) of which they will ever feel proud.

Three hearty cheers were given for Dr. Jewell, who addressed the assembly as follows:—

Mr. President: Had I known that I was to be brought down here to be quarantined for a speech, (laughter,) I think I should have

weighed anchor, set sail, and gone into the port of Philadelphia. (Renewed merriment.) And, sir, since I was notified that I should be called upon to address this assembly, I have had an "irrepressible conflict" within me, (laughter,) whether to speak myself, or call in a *helper*. (Uproarious laughter.) But, sir, I have been cautioned not to introduce politics on this occasion, and as we are all *Lincoln* men here, (applause, and three cheers for Mayor Lincoln,) there is no occasion for my doing so.

Mr. President, I have an idea that there is a great deal of Yankeeism about the whole of this affair, sir. You have invited us here from every part of the country, even from every State, I believe, for the purpose of effecting a reform in quarantine regulations, and you have brought us down to this island to afford us an insight into your system. Well, sir, if this is a specimen of your reform in quarantine, I guess you will have no complaint when ships and passengers are detained here. (Laughter.) We can boast of a glorious reception, sir, in your city of revolutionary memory,—a welcome, sir, which we never shall forget. But here, sir, we are enjoying by far a *More 'arty* reception. (Great merriment, which was succeeded by three cheers for Dr. Moriarty.)

But, Mr. President, I come to more serious matters. You in Boston are somewhat famous for quarantines; and, sir, when I penned a brief history of quarantines in this country, I think I did great injustice to your venerable sires in not mentioning their noble deeds. They were the first quarantine reformers; and as they were the leaders in a revolutionary rebellion, I think, in 1768, so were they, in 1773, the leaders in a revolutionary quarantine. On the 29th of November, 1773, there were to be seen posted on your street-corners, in Boston, placards, cautioning people against the introduction of what was called in those placards, "the worst of plagues;" and it was on that very day that your sires met in the Old South meeting-house and there resolved, unanimously, that no *tea* should be landed within the precincts of Boston; and the Dartmouth, the Eleanor, and the Beaver, were the three first ships ever quarantined in Boston harbor. (Applause.) And why were they quarantined? Because they were about to introduce and land the poisonous leaves of British oppression, which, if they had been allowed, would have forever destroyed the liberty which we now enjoy. (Applause.)

But, sir, that was only the forerunner of more glorious events, for at Lexington and Bunker Hill you started the renewal of a continental quarantine, the consummation of which gave us liberty and independence forever. (Loud applause.) Thanks, sir, to the Boston Tea Party, that met on Griffin's wharf! (Applause.)

But, sir, I rose more particularly in response to the very complimentary sentiment in which you have so beautifully alluded to my feeble efforts to relieve our commerce from the restrictive regulations with which it has been burdened and cursed for so many long and tedious years. To-day, I feel proud that I ever launched forth in a cause so glorious and yet so humane. It has been my mission for years to endeavor to establish a reform in quarantine, and as to the

success of my efforts, the best answer may be had in the intelligent assembly which is now meeting in your city in convention. Sir, it was said to me to-day by a gentleman who is here present, "I congratulate you, Doctor, that you have been delivered to-day." (Laughter.) Well, sir, I have been much interested in the birth of this child; I have nourished it faithfully, and in embryo I cared for it, lest it should come forth a puny one, and perish by an untimely death. But I rejoice that it can already stand alone; that it can take care of itself; in other words, it has been adopted by the nation, is a national affair, and that its strong arms, like luxuriant branches, will extend throughout the entire country, and the fruit thereof will be for the amelioration of the human race, and of those especially who "go down to the sea in ships." (Applause.)

Mayor LINCOLN. Mr. President: You well know that this occasion does not belong to me. Yesterday, I welcomed our friends from different parts of the country as members of this Convention; to-morrow I shall have occasion, in behalf of the City Government, to welcome them again. I am here, sir, by your invitation, as most of the gentlemen are here, to participate in this delightful occasion. I wish the gentlemen present, who are not citizens of Boston, to understand exactly our position here. To be sure, as you said, sir, we have some pride in these institutions, but yet, it is a pride which cannot, perhaps, always be a just one. We are sorry, as doubtless you are, that in every one of your cities there is a necessity for such institutions; and as such necessity exists, we are bound to make them as useful as we can. Every one recollects the story of the little boy, who, when asked why a certain tree which was pointed out to him grew gnarled and crooked, said, "Because somebody trod on it when it was a little fellow." So it is, in a great measure, with the class of people whom we have here; they have been unfortunate in their youth; somebody has trodden upon them and given them a wrong direction, when they were young. (Applause.) This, sir, is the condition of a great many of the inmates of the institutions on this island, and we are doing our part to straighten them up and make them become good men and good women, and an honor to the community in which they live. (Applause.)

There is another thing which ought to be stated here, and that is, that although this institution is carried on, in part, by the City Government, its expenses are paid, and the appropriations for it are first made, by my friend, the President of the Common Council, and his associates. From this source we obtain the money. Yet, at the same time, the institutions are managed by an organization a little independent of the City Government. We have representatives of the City Government in the Board of Directors; but there are, also, in that Board, some gentlemen outside of the City Government; and let me inform you, gentlemen, that the members at large are usually selected from gentlemen who have formerly been connected with the City Government, and who have proved themselves good public officers,—like yourself, sir, the Messrs. Kimball, Mr. Brewster, and others. When they have served their term in the City Government, they are often chosen as part of the Board of Directors of our Public Institutions; and let

me tell you, gentlemen, that if there is any position which I am ambitious to obtain, it is that of being deemed worthy, when I shall have finished my duties in the City Government, of being a director of these institutions. (Cheers.)

Such, gentlemen, is the character and reputation of our directors; and if you will examine these institutions, as you will, no doubt, have an opportunity to do before you leave the island, I think you will be well satisfied that they are in good hands.

But, sir, I speak here, at this time, only by your courtesy, and I will say but a single word further. We have visited to-day another institution, which is under the charge and direction of the good old State of Massachusetts, (applause,) and I rise to propose a sentiment to call out the Speaker of the House of Representatives, who is here.

Our beloved Commonwealth—First and foremost in every effort for the elevation of man and the amelioration of the condition of the human race. (Applause, and three cheers for the Commonwealth.)

Hon. Mr. GOODWIN, of Lowell, Speaker of the Massachusetts House of Representatives, responded:—

You, Mr. Chairman, and His Honor the Mayor, were somewhat out of place in your selection of the person who should respond to that sentiment, for, of all the members of the House of Representatives, the only one who is expected never to make a speech is the Speaker. (Laughter.) Still, sir, I am happy to join with you in this occasion of welcome to so many gentlemen from so many scattered points of our common,—thank God, of our indivisible country. (Applause.) But, sir, I regret that this occasion does not belong to the Commonwealth,—that she is not the host, and she has no right, here, to be prominent. And in placing the Capital before the Commonwealth,—the Capital, which, though not so in position, is yet really the heart of the Commonwealth,—somewhat upon one side geographically, but, sir, as we rejoice to know, in all good works on the *right* side—(Applause,) still, sir, in placing the Capital before the Commonwealth, I have good authority for it. It chanced to me, several years ago, to sail out of this harbor, before the mast, upon the “long voyage,” and at the further extremity of that voyage, in China, to fall in with a grave and venerable mandarin, in a tea-store, who appeared to be somewhat happy to see me, and desirous to know where I came from. “From Massachusetts,” said I. “Massachusetts?” said he; “I don’t know where it is,—is it anywhere near Boston?” (Great laughter.) “Oh, yes; it is close by.” (Renewed laughter.) “Then,” said he, for the first time, “I am glad to see you.” That was not quite so bad as the adventure of a friend of mine, who strolled away from home, and, being out of business, shipped on board an English East Indiaman. On the coast of Siam, he went on shore, and fell in with one of the chiefs, who, in the course of conversation, said, “Where is your ship from?” “From London,” said the Yankee. “From London?” said the chief, “I never heard of that,—is it anywhere near Salem?” (Great merriment.) So you see, sir, that if, on fit occasions, we place the Capital

before the Commonwealth, we have excellent authority for so doing, and no possible fault can be found. But, sir, as I was remarking before, I am happy to have been one of this company, to have joined this group, gathered from all parts of the Union, and meeting here in so great and so noble a cause. What is worthier than the advancement of sanitary science,—than anything which tends to develop the powers of the body, to promote its health, and to disseminate through the community a thorough knowledge of the great laws which govern it?

It was said, thousands of years ago, of this frame of ours, it is “fearfully and wonderfully made!” But it appears to me as if the truth had made slow progress, and as if governments were unwilling to recognize the fact that they have anything to do with the physical well-being of those under their charge. But, sir, I cannot help thinking that they who, in pursuit of sanitary knowledge, have come here to-day, have been especially fortunate. I landed upon yonder pier not more than two hours ago. And, by the way, sir, it is my misfortune to look like Cassius, who wore, we are told, a “lean and hungry” look. (Laughter.) And I landed here so feeling; but, sir, I have breathed this atmosphere but a short time, and that feeling is so far removed from me that I can recall it only by reasoning on the doctrine of contraries.

It is one of the privileges of the Speaker, sir, as you have alluded to the parliamentary chair, and to the accident of my filling it, it is one of the Speaker's privileges to name his substitute. And as I see far off, smoking quietly by a cool window, a gentleman known as one of the most earnest among the Directors of the Public Institutions of Boston, and one of the most industrious of the legislators of Massachusetts, I hope that, at the proper time, he will put in all I have forgotten to say. Of course, I allude to MOSES KIMBALL. And so, sir, merely asserting again, for fear it should not be understood, my great regard for sanitary science, and my entire satisfaction with the investigation we have made (laughter) into the best remedies for those grievous ills which flesh is heir to, I will close with this sentiment:—

The Public Charities of Boston—May they always be as generously and as timely bestowed as they this afternoon have been upon us. (Three cheers were given for Speaker Goodwin.)

The PRESIDENT gave — *The Legislature of Massachusetts*,—and said:—

I call upon the Hon. Moses Kimball to respond to this sentiment,—a gentleman who has been at the head of the Board of Directors of Public Institutions for the city of Boston.


Hon. MOSES KIMBALL, of Boston, on rising to respond to the toast, was received with warm applause. He said:—

Mr. President: I wish I could thank you for calling me out; but I cannot, sir. And I cannot thank my friend, the Speaker, for suggesting that I should be called. It is a misfortune, for a modest man (laughter) to be placed under the lead of two such arbitrary rulers,

in the same year, as yourself and the Speaker of the House. But, sir, I can neither thank you nor the Honorable Speaker any more than I have already had occasion, many times, to thank you, for placing me upon Committees where you were sure there was a plenty of hard work to be done, to keep me quiet. People sometimes imagine it is an honor to serve upon this Board; but the time when they particularly think it is an honor is when they come down here and visit us, and we put on our holiday clothes, and get out our best crockery. (Laughter.) But I trust gentlemen will consider that Boston is an exceedingly liberal city; liberal for her public institutions; liberal for their inmates; and, although the President is an exceedingly modest man, and does not desire to say it,—however much you may be flattered with the entertainment here to-day, this is only a medium repast, and not quite up to the usual splendor. (Laughter.) Some of you come from a distance, and, perhaps, for the first time, are in New England. I doubt whether you have ever partaken of one of the luxurious dishes peculiar to New England, upon which our inmates here are regaled on the Sabbath. I refer to baked beans. We find it is a cheap dish, and nutritious at that. Then, fortunately, we are in the vicinity of the ocean, and we have hardy fishermen, who draw from the deep the glorious codfish; and that furnishes another luxurious dish for the inmates. We couldn't give you these, for you are outsiders, and hardly entitled to that kind of feeding. (Laughter.)

But a truce, sir, to this pleasantry. In common with our President, and the entire Board of Directors, and also with the city authorities, I join in most cordially welcoming you to see what Boston does for her poor, unfortunate, and vicious. We have, upon this island, three—I will say, four—institutions combined in one. There is what is called, in most parts of the country, the poor-house, the almshouse. Thanks to the thrift and industry of our people, the number of its inmates is exceedingly limited, consisting, principally, of the aged. In our community every man works, and every man thinks it honorable to work; and more than that, we all of us believe in making people work, whether inside or outside of the institution; and therefore no man needs to call upon the public for charity. Again, we have another class here, as my friend the President says; and I notice with what especial care of the company present he called them parties sentenced for trivial offences, and enumerated, among the rest, night-walkers, and so forth. (Laughter.) I think I need not illustrate further upon that point, for, by the manifestations of the company, a nod is evidently as good as a wink to a blind horse. We have, then, Mr. President, as you very properly observed, two reform departments, consisting of those little boys,—some of them grown large and old in sin and iniquity, who, as His Honor the Mayor has very happily illustrated by the growth of the tree, have been crooked, and transplanted, and started wrong; and many of whom, I am afraid, we shall find it very hard work to straighten out, unless we send them out to sea on the Reform Ship, to kinder climes, where the surroundings will be more favorable to them. We have, also, a Girls' Reform School, of which, I am happy to say, the result is more favorable, and by means of which many, we hope, are saved from destruction.

This island was originally, or has been of late, the Quarantine Station,—a thought which brings us more directly to the subject which has called you together. Here it was that first we had the hospital of the ship-fever. The white buildings about the island were rattled up in the course of a couple of weeks, for the shelter of the poor Irish emigrants, of whom we landed whole ship-loads,—four or five hundred at a time,—nearly all infected with the disease. And having, at first, no shelter for them but the tents, we were compelled to lay them, roofless, upon the hill. And as the poor creatures were laid upon mother earth, and smelt the wholesome odor from the ground, they crawled, often, and bit their teeth into it, and began to be resuscitated and revived. (Applause.) At one time there were upon this island something like fifteen hundred ship-fever patients; and the greater part of them were saved, and a great many of them, we trust, have become better citizens of our free and glorious Republic.

Here is our Quarantine Station, and although we think that our commerce, to use a Yankee phrase, is “some pumpkins,” I ask you to look at our roadsteads, and you will see not an anchor is dropped there, to tell you of that almost brutal law of delaying and embarrassing commerce, by holding a ship in quarantine. (Applause.) I think that Boston has been enlightened upon this point by the action of this Quarantine Convention. I had the honor to sit as a member, in New York, and, I think, never, in the space of two days, did I gain more valuable information than I did from the discussion, there, in regard to the yellow fever, the very name of which has carried terror to every landsman and every sailor. In this Convention, bringing together gentlemen from every portion of the country, one from Savannah, another from New Orleans, another from Memphis, where the fever had raged, with our cool-blooded and scientific men of the North, consulting upon this great evil, truths were brought home, conviction came to every heart, that this dreaded tyrant of ship-fever was as harmless as an infant, and that contagion from its contact was no more to be feared than disease from contact with either of us. Mr. President, we see a great point made. In consequence of the efforts of those fifty to  hundred scientific men, popular inquiry has been aroused, public opinion enlightened, and the community have begun to understand that they are not endangered by proximity to a yellow-fever patient,—that ships can come up to the wharf, and that commerce need not be restricted by the twenty, thirty, or fifty days' quarantine which has been required in some ports. We owe that, sir, as has been said, to a single gentleman. With him originated the idea of bringing together scientific and strong minds, for consultation upon the subjects which have occupied the notice of this Convention.

You have heard, from him, his humorous illustration of what Boston has done. He has told you that this city was the first to *quarantine* yourselves; but he should have gone further, and told you that his glorious city of Philadelphia, and Independence Hall, in that city, was the place where the first Quarantine Convention sat, (applause and laughter,) that framed that glorious bill of American principles under which our government now exists. (Cheers.) He should have told

you, too, that his native city was the place where the first of these Quarantine Conventions sat, to which, I am proud to say, Boston more promptly responded, by sending her delegates, than any other city in the Union. (Applause.) Following the lead of that distinguished medical man of Philadelphia, this Convention has grown to be an institution in the country. And I rejoice that the present Convention has agitated a measure to make it a permanent American association for the advancement of sanitary science. (Applause.) I need not speak further of the distinguished gentleman who first agitated the idea of sanitary conventions. You have heard him and looked upon him, and, Jewell as he is, I think you are all satisfied that there is not a particle of paste in his nature.

Our friends, Mr. President, seem to be favorably impressed, and I think they are all highly pleased with the treatment which they have received at Deer Island. In the first place, as they approached the wharf, we showed them what the science of nutrition can do for the health, and growth, and progress of man,—we showed them a sample brick of the institution. I think you will all agree with me that he is a brick indeed. (Great laughter and applause.) But, sir, if there remained any doubt about that, we have taken these lately admitted inmates, and, without putting them through the first process of cleansing, and changing their dress, we are willing to step over the rules of the establishment, and admit them, at once, to the kits, and the mush, and the beans (laughter); and I find that, what with the salt air, and the ride, and the genial influences of the institution, it is beginning to work wonders.

By the way, I must say that my friend the Speaker is not half so brave, here, as is his wont. He talks to me in different terms from those which he employs in his high place at the State House. Here, he talks in commendatory language; but there, with the gavel, he orders and we obey. I saw, as he talked about the condition in which he came here, lean and hungry, that as he spoke he tried to bring his coat together, and it wouldn't meet. (Laughter.) I think, sir, that is evidence that we have done something for him; but what has he done in return? Down here at Boston, partaking of Boston hospitality, he tells us about a stupid old mandarin and somebody else, across the water, talking of Massachusetts being near Boston, and London being near Salem! He is talking about times when he was a boy. If he should go to Canton now, and tell a mandarin that he was from Massachusetts, the probability is that the Chinaman would ask him, "Is it anywhere near Lowell?" (Laughter.) That is where they manufacture cotton goods, and turn out good men; it is where my friend the Speaker lives; it is thought by some to be the hub of creation, and the hub of good-fellowship in the bargain.

But, sir, I shall not trouble you any longer with my gabble. I touched upon the subject of nutrition. Perhaps some of you don't know that here at the North we have a way of thinking for ourselves, and doing pretty much as we like, too, whether other men like it or not. We have all kinds of isms. First, Homœopathy, which fights the disease within you with a little pill of sugar,—and many are will-

ing to get well by so easy a remedy. Then we have the Allopathist, who holds to the good old ways; and then the Hydropath, who washes out all diseases from the system by outside bathing; though they have found out, at last, that when there is a system of internal bathing to resist the external influence, the water system doesn't seem to flourish. (Renewed laughter.) More than that, gentlemen, at the southern part of the city we have a hospital where petticoats are pre-eminent, and sign M. D. to their names,—and many young gentlemen are disposed to be sick, for the purpose of calling in young female physicians. (Laughter.) But we have still another class, who propose to cure disease by nutrition, and I think they are the most sensible of the lot. My friend there at my right, for example, being in feeble health, diets himself, and limits his food. I have observed him this afternoon, and observe that he diets himself by eating the best he can get, and limits himself by devouring as much as he can get through with, and then wiping his lips, says he “thiuks the salt air does him a great deal of good.”

You have many more gentlemen present, sir, from whom we should hear; and we should not inflict so much of Bostou nonsense in preference to the sound science and good seuse that we shall get from our friends from abroad. Therefore, thanking the Convention for the kindness they have shown to me, I only hope that their remaining days are to be as happy as the previous ones, and that they may go away with no bad idea of the intentions of Bostonians towards their friends, come they from where they may. (Applause, and three cheers for the speaker.)

SENTIMENT: *The Common Council of the City of Boston*, the popular branch of the City Council.

J. P. BRADLEE, ESQ., President of the Common Council, responded:—

In the first place, gentlemen, in behalf of the Common Council, I wish to extend to our friends from the South as hearty a welcome as could possibly have been given by our worthy Mayor. Not having been permitted, in consequence of circumstances, to join with the gentlemen of the Convention, thus far, I take this occasion, in behalf of the branch which I represent, to tender them a hearty and eordial welcome to Boston. (Applause.) I do not know what our honored Mayor has said to them, but, at any rate, what he has said I must fully and warmly indorse. (Applause.) It was not intended, gentlemen, that I should get up here to make a speech. I have been informed by the worthy President of this Convention, that that was not the intention in calling upon me; and to those gentlemen who know me,—when he says popular branch, he means the branch that is to be used for any popular occasion. [Laughter.] If he had only been an Alderman, I could hit him a little harder. He only uses me to say that the time for these festivities is nearly exhausted, and he is very anxious to show you these institutions; he only got me up here to announce to you that (after what I shall say) there will be no more speech-making, but he will be very happy to show you through the buildings. Therefore, I

may close by saying that the Common Council, a co-ordinate branch of the City Government, welcome this Convention heartily to Boston, and its representatives from all parts of the Union, and that we share, on this occasion, as always, the sentiment of Daniel Webster, "Liberty and Union, now and forever, one and inseparable."

At the conclusion of the speeches, the company returned to the city highly pleased with the entertainment.

BANQUET

AT THE

REVERE HOUSE.

BANQUET.

On Saturday afternoon, June 16, by invitation of the City Council, the members of the Convention partook of a dinner at the Revere House.

Punctually at five o'clock, the company assembled in the large parlor, and repaired to the dining-room, the Brigade band playing a march meanwhile. After a blessing by Rev. Chandler Robbins, D.D., the company gave their attention to the repast before them.

At the right of the Mayor were Gov. Banks, Dr. Jacob Bigelow, Hon. Josiah Quincy, Jr., Dr. O. W. Holmes, Dr. Guthrie, of Tennessee; on his left, Dr. Jewell, of Philadelphia, Hon. Edward Everett, Mayor Arnold, of Savannah, Mr. Haswell, of New York, Dr. Knight, Mayor of Providence, and Rev. Dr. Robbins.

At about half-past six o'clock, His Honor, Mayor Lincoln, rose and said:—

Gentlemen of the National Quarantine Convention: In behalf of the City Council here assembled, I bid you a most cordial welcome to this scene of our festivities. In the course of a municipal year we have often to extend the hand of greeting to strangers who may visit us. But never have we had an occasion which has called more loudly for our sympathies, and which has so justly demanded all the courtesies which it is in our power to bestow. (Applause.)

Associated effort is the more important element of power in modern times; but, when it is combined for such a purpose as has called together the Convention which has been in session for the last three days in this city, its influence cannot but be beneficial, and promotive of the highest good. It is no selfish motive of personal aggrandizement or profit which has called you together; but the health and happiness of your various communities have been your themes, and the

democratic motto of "the greatest good to the greatest number," has been the object of your highest ambition, and the aim of all your deliberations.

We rejoice that you saw fit to select Boston as the place for your councils; it will awaken our own community to the importance of the great cause of sanitary reform. We will unite with the great cities of Philadelphia, Baltimore, and New York, where those Conventions have been held, and with all the other cities of the Union, in carrying it forward; and "the blessings of many that were ready to perish" will be our exceeding great reward.

You have come here, gentlemen, as the representatives of many different States of the Union; sitting together as we do here in social harmony in this our historical city, on the eve of the anniversary of the first great battle of the Revolution, with patriotic and pleasant memories of the Fathers, this Convention itself, in addition to its primary object, will have no inconsiderable influence in binding together as one this great and happy Republic.

We have welcomed you here as men of science and men of letters, as philanthropists and benefactors of your race, and trust your sojourn in Boston may have been as pleasant to you as your labors will be beneficial to the country.

I now give you the first regular sentiment:—

Sanitary Science—As illustrated and enforced by the Fourth National Convention of its friends. May its fruits be for the "healing of the nations."

Dr. JACOB BIGELOW, President of the Convention, was introduced to respond, which he did as follows:—

Mr. MAYOR: I congratulate you, sir, and the members of this Convention, on the successful termination of the labors of the week. Having happily survived your visit to the scenes of quarantine and lazaretto, of pestilence and contagion, of long speeches and protracted sight-seeing, you have come once more to peril your useful lives in confronting the hospitalities and temptations of the ubiquitous Paron Stevens. Your meeting has been adjourned *sine die*, but we shall not admit without debate that it is adjourned *sine nocte*. The best part of a letter is sometimes found in its postscript, and we trust that this supplementary meeting will not prove the less agreeable, admitting as it does of a freer intercourse, untrammelled by parliamentary rules and regulations. Your tutelary saint is no longer St. Lazarus. Let him henceforth be the more genial St. Nicholas.

In visiting Massachusetts, we hope the Convention have not lost their way. They have certainly got into a healthy district. We are well known as a land of rock and ice. We do not deal in marsh miasmata, in yellow fever, nor in chills and ague. The worst that can be said of us is that we entertain a few suspicious east winds in the spring of the year. Perhaps we are entitled to the stigma applied to another place by a parodizing poet.

"There shall the spring its earliest coughs bestow,
There the first Noses of the year shall blow."

Mr. Chairman, the citizens of this country are emphatically a debating and a speech-making people. This is our besetting disease. No quarantine has yet been able to limit the spread of our propensity to talk, and its epidemic, nay, its contagious progress, has been distinctly traced from one city to another, accompanying the movements of Conventions. No Committee has yet reported any feasible or satisfactory plan for arresting its progress. And, until they do so, I think it a safer and more gratifying policy to let it take its course, for it appears thus far to be a safe disease, and nobody has yet been known to die of it, however near to that catastrophe some of the hearers may have been.

I am only a consulting physician of the city, and the City Fathers have not asked my opinion as to their bill of fare, either material or intellectual. But such is their well-known liberality of sentiment, that I am sure they would be the last persons to impose any restrictions upon your appetites, still less to put bridles upon your eloquence. Thus far they have only attempted to get bits into your mouths, and, such as they are, I hope you have been able to champ them without inconvenience.

It is not necessary to attend the meetings of Sanitary Conventions to satisfy us that our lot is cast in a perilous age, and that we are surrounded with dangers, both real and imaginary. In this country, indeed, we may be exempt from some of the calamities of the old world, from wars, mobs, sieges, and revolutions. But where shall we fly to escape from east winds and dogdays, from pestilences that come and pestilences that do not come, from ships that bring us yellow fever and quarantines that nourish and cultivate it, from cattle diseases that can only be exterminated by exterminating the cattle, from lead pipes for water contrived to kill everybody except the animacules, from fraudulent food and deleterious physic, from drugs that are poisonous and poisons that are adulterated, from infectious patients whose pulses must be felt with a pair of tongs and their chests explored with a tarred stethoscope?

There are perils of nervous men and nervous communities which can neither be estimated nor remedied. Like the amphibious animal of the showman which dies in the water and cannot live upon land, it is in vain that the unhappy inquirer resorts to his statistical tables to inform himself whether there is most danger in a steamboat or on a railroad,—he unfortunately learns that the most dangerous thing a man can do is to go to bed, for more people die in bed than anywhere else.

For these evils, and many others yet unknown, we trust that the wisdom of future Conventions will yet devise a remedy. In the mean time, we may be compelled to adopt, as a temporary expedient, the course recommended by the editors of the *Quarterly Review*, in their account of a popular work on culinary poisons. After an examination of the manifold dangers, real and imaginary, which now

surround the denizens of civilized countries, they offer the following consolatory suggestions.

"We feel that it only remains for us to eat our dinners and swallow our boluses with what appetites we may, confident that if death does not come to us out of the pot, or out of the gallipot, he will find some other mode of getting at us."

MAYOR LINCOLN. We lay brethren have been very much confounded, as well as amused, by the discussions within the last two or three days, in regard to what is "State Medicine." I propose to give a sentiment on that subject.

His Excellency the Governor of the Commonwealth of Massachusetts—When the doctors can agree as to the meaning of the phrase, "State Medicine," may he administer it in gentle doses, that it may have the desired effect.

On rising to respond to this sentiment, Gov. Banks was greeted with prolonged cheers, which he gracefully acknowledged and proceeded to say:—

Mr. Mayor and Gentlemen of the Sanitary Committee: I am quite ignorant, I am sorry to say, of the discussions to which His Honor the Mayor has alluded to as having taken place in your meetings; but the prescription of one of the best fellows this world has ever seen, is, I think, about as well adapted to this company and this Commonwealth as any I know. He said, "Let me have about me good fellows, such as can eat good dinners and sleep o' nights." (Great laughter.) So I am inclined to think that a State medicine that should be as conducive to the public health as any other, would be participation in good company. And as there is no better prescription than that, so there is no better specimen of it than that over which His Honor the Mayor presides this evening.

I welcome you, so far as I may be permitted to do it with propriety, as His Honor the Mayor has already done. From the great States in the interior, from your homes, wherever they may be, I welcome you here; and I believe, from the depth of my heart, that our Commonwealth will be the better for your visits. (Applause.) To whatever disabilities we may be subjected to here, and however we may prescribe in the way of that good prescription to which I have alluded, I trust that you will be none the worse on your departure from our midst. (Renewed applause.)

The great object which you have under consideration is one that affects the State, perhaps, more than it does smaller communities or individuals; for it is your work, not so much to create nations, as to preserve nations, and to expound for the conservation of the public health wise and unintermitting sanitary regulations, without which, that which Divine Providence has done for us so well, would have been done almost in vain. It is but fifteen years ago, it was said in the House of Commons, that the English could never contend with a people of a neighboring State while their sons and daughters labored seventeen hours in the mills, and who, by the operation, were made so

small that they could not be received into the army. Said Lord Macaulay, when England surrenders the foremost portion of the earth, she will surrender it to no race of dwarfs, but to a people pre-eminent for strength of mind and strength of body. This is the great object which you have had under consideration, — how we may preserve this power of nations, without which communities and States are organized in vain, and individual health and happiness must be sought elsewhere.

But I do not mean to go further in this course of remark. I am inclined, in the matter of medical prescriptions, to adopt the doctrine of the Autocrat, on my right (Dr. Holmes); and I believe we are indebted to his philosophy in this as in many other matters; and I believe that the fewer doctors, the greater the health of the public. (Laughter.) That is the reason why we attend to sanitary matters, and take less of the physic.

I am sure that, looking on my right and left and in front, it is not my privilege to trespass longer on your attention. I would, Your Honor, that the ladies had been represented in the State government, for then we might have had their ideas on the subject; and certainly nobody can compare with them in the way of speaking.

Gov. BANKS closed by offering the following sentiment:—

Man and Woman—The parents of the human race—May the cities and States they founded never cease to maintain the wise sanitary regulations which will secure to their offspring what, after the immortality of our nature, must be regarded as the noblest of heritages and the richest of blessings, — a sound mind and a sound body.

The next regular sentiment was —

New York: An empire in domain and commercial importance, — her great metropolis a wonder of busy activity. We rejoice in their power while striving to excel it. May friendly emulations never impair friendly relations.

Mr. CHARLES H. HASWELL, of New York, responded as follows:—

Mr. Mayor: It is with no ordinary feelings of embarrassment that I rise to respond to a sentiment so kindly given to the State and city of which I am a delegate to this Convention. My embarrassment is of a double character, growing out of the magnitude of your kindness, and my inability to represent, as it ought to be done, the city for whom I speak. I need all the eloquence of the gentleman from Savannah, and all the wit and humor of the gentleman from Philadelphia, to do justice to my position. Feeling my inadequacy to the task you have so kindly called on me to perform, I will, with your indulgence, close with a sentiment which I consider is due to the city of Boston. I was brought up on Fort Hill, and I can recollect Boston when there was no connection between it and Roxbury but a country road. It is with no ordinary feelings of pride, therefore, that I find Boston the magnificent city that she is to-day. I will give you —

The City of Boston — Unsurpassed in its municipal laws, unequalled in its observance of them.

The next sentiment was —

Philadelphia and Boston—Associated in the past by revolutionary events; united in the present by the measures of sanitary reform. May their citizens ever cherish towards each other the spirit of "brotherly love."

Dr. WILSON JEWELL, of Philadelphia, was called on to respond to this sentiment, and as he rose, three cheers for Pennsylvania were called for and heartily given. He then said:—

Mr. President: I wish to say to you now, once for all, that I am no speech-maker; but of all speeches, after-dinner speeches are those that I am unaccustomed to make. I am a sanitarian, sir, both in theory and practice; and while I glory in the name, I am, at the same time, fond of carrying out my sanitarian principles on every proper occasion. If there is any class of men who should be familiarized as to what is good for their health, it is sanitarians, and I always like to follow our sanitarian gatherings with such a healthful entertainment as the one before us. (Good, and laughter.)

Mr. President: I am happy to know that at last we have found out what "State Medicine" means, (laughter,) and the best definition I am capable of giving of it at this time is that of a good dinner after a Sanitary Convention. (Great laughter and applause.)

But, Mr. President, I arose more particularly to thank you for the complimentary manner in which you have recognized Philadelphia in placing her side by side with Boston, "the city of notions," for I have a notion, sir, that Boston is a kingly and a princely city, and knows full well how to entertain her friends in a superbly hospitable manner. (Great applause.)

Mr. President, I am proud, for my native city of Philadelphia, to be associated with Boston in the past by revolutionary events, and I rejoice that in the present measures of sanitary reform we are happily united. In the former instance, Boston was the first to start the revolutionary reform, while Philadelphia had the honor of handing it down complete, signed, sealed, and delivered to a free and independent people. In the present case, Philadelphia was the first to move in sanitary reform, and I am happy, moreover, to know that, while she set the ball in motion, Boston, with her energy and intelligence, has arrested it, and placed it where it properly belongs. (Applause.) Be it known, sir, that this was a Quarantine Convention originally, and during this session we have settled the long-agitated principle as to what a quarantine should be.

At present, sir, we are still standing, as it were, in the vestibule of sanitary reform,—one of the greatest reforms that this country has ever entered upon, the great reform of the age; and truly may it be said, as was hinted by one who preceded me, that the day is rapidly approaching when clinical doctors will scarcely be needed, and when sanitarians will take their places, and when we shall not so much attend to the health of the human body as to the condition of the body politic.

Mr. President, I have no disposition to speak of myself or of my efforts in this cause; but you know not, sir, what difficulties I encoun-

tered and what prejudices I had to overcome, in consequence of the opposition or the indifference of those who frowned upon and endeavored to prevent the organization of the Convention which met in Philadelphia, in 1857. I had not a hand to aid me in the incipency of this cause at home; our municipal corporation slumbered over its interests, and they are still sleeping over it. I was discouraged at every point. Even my medical friends said, "You had better not attempt the calling of a Convention; we are not prepared for it; it will prove a failure." But I was determined to make the attempt, let the result be as it might; I knew there was a go-aheadativeness in our country, and that, if the movement was a good one, it would be responded to; and it has been responded to nobly. (Applause.) I will tell you by whom it was first responded to. It was by Boston. (Applause.) Boston was the first to lend a helping hand to aid and encourage us. She sent almost her entire City Council with the Mayor at its head, and Philadelphia is indebted to Boston for the efficient aid she has given in this reform measure; and I thank her from the bottom of my heart for thus coming to the help of Philadelphia in this great reform measure. I now rejoice, sir, that the interests of this institution are being felt and appreciated over the entire country. We have welcomed representatives from Georgia and from the Far West; and now the West is calling upon us, and Ohio has sent the Macedonian cry, "Come over and help us." We have resolved to go there and help them next year when we meet at Cincinnati.

Sir, I will not extend my remarks further than to again say that I thank you for the complimentary manner in which you have spoken of the city of Philadelphia. (Applause.)

The next sentiment was —

Savannah — A name harmonious and sweet upon the ear, and full of pleasant fancies. May the health-seeking wish that associates her to-day with Boston, be a type of future mutual study to secure a healthful union of good-will and friendship.

Hon. R. D. ARNOLD, Mayor of Savannah, on rising to respond, was greeted with three cheers. He spoke as follows: —

Mr. Mayor and Gentlemen of the City of Boston, and my Co-members of the Sanitary Convention: There was an adage extant in former days, which, like a great many other things, has been swept out of existence by the progress of events. That adage was, that "time and tide wait for no man." Now, gentlemen, though we may have got ahead of time and tide, I have to say that, as I belong to that unfortunate class who must go away to-night, the cars wait for no man. Never in my life did I regret that I had to measure the moments that I might remain as I do now. I could wish that I had another hour-glass, and that every sand as it dropped might measure an hour; because I have come from a great distance, representing a city which is particularly interested in commerce as

the means of interchanging the agricultural products of the country with the products of the whole world, including Boston and Salem. (Laughter.) And I am glad that before I came here the Convention of last year swept away one of the last relics of barbarism,—the infernal restrictions of quarantine. Thank God that was a relic of barbarism that did not belong to our peculiar institution. (Laughter and great applause.)

Much, then, has already been accomplished. One of the most sincere pleasures I had yesterday was, while addressing many of those whom I see here to-day, to pay a heartfelt compliment to the gentleman who had just taken his seat, of whom it may justly be said, "*Monumentum se queris ; circumspice.*"

As another evidence that we are in the line of progress, I will refer to an occurrence which took place in this very room, eleven years ago, when the physicians of Boston entertained the American Medical Association. The culinary art had been exhausted in the preparation of the solids, but the fluids were represented only by Cochituate water.

To-night we have come to the banquet marching to the inspiring sounds of music, and now (holding up a glass of sparkling Champagne) no bridle is put on our tongues by dipping them in cold water. I give you —

The progress of Boston in sanitary matters, and also in gastronomic matters.

The next sentiment was —

Providence — Our next neighbor and friend. She will give us to-night, through the lips of her Mayor, a *knight*-ly response to our cordial "what cheer."

His Honor, Mayor JABEZ C. KNIGHT, of Providence, being called on to respond, said : —

I desire to acknowledge the compliment which has just been expressed in behalf of the city that I have the honor to represent here on this occasion, and also in the name of my associates who were delegates to this Convention, most of whom have found it necessary to return. For them as well as myself, I desire to express the obligation that we are under to Your Honor, to the City Council of the city of Boston, and to the citizens of Boston, for the sumptuous hospitality with which we have been received and entertained during our visit. And we indulge the hope that some opportunity will be given to reciprocate this kindness and this hospitality. We had heard of Boston notions, but we never before fully understood the term ; but the evidence of your hospitable natures yesterday, and repeated continually since we have been with you, affords me the gratification of being able to say that I understand the term. I desire to offer a sentiment :

The City of Boston, and Boston Notions. (Applause.)

The next regular sentiment was —

The Memory of Washington, the great Sanitarian, who converted thirteen complaining colonies into States, blessed with a good constitution. (Drank standing and in silence.)

Hon. Edward Everett being called to respond to the sentiment, was received with the most vociferous cheering as he rose, and when the cheers had subsided, he said :—

Mr. Mayor, and Gentlemen of the Sanitary Convention : I should feel ashamed to respond to a toast in honor of that peerless name, did I not bear in mind that it is one to which nothing can be added by the skill of the eulogist, from which nothing can be detracted by his inability to do it justice. You have fittingly commemorated him before this company, in the character of a great Healer of the State. He was called in when the body politic was in the most perilous condition, requiring for its treatment the utmost courage and judgment. The State pharmacopœia afforded no anæsthetic agent to soothe the pangs of the sufferer ; nothing but heroic remedies and capital operations would serve, and the alternative was kill or cure. The toast, Mr. Mayor, that you have proposed proclaims the auspicious result. You have also reminded our friends that we are assembled on the eve of the anniversary of that memorable conflict, the first pitched battle of the Revolution, which has immortalized the heights of our sister city of Charlestown. Before this company it is proper to remember that the hero of that day, the illustrious Warren, was, not figuratively, but in deed and in fact, a physician. (Applause.)

I have much regretted, Mr. Mayor, that other engagements have prevented my attending the meetings of the Convention, except for a short time this morning, for I regard them as closely connected with the public good. The aggregate results of the deliberations of such a body, well designated by the name of "State Medicine" or "State hygiene," of which His Excellency has not exaggerated the importance, are closely connected with health, morals, and all the great social interests. It has been said that "eternal vigilance is the price of liberty ;" it is not less certainly the price of health, alike in town and country ; for it is, in my opinion, an error, though a prevalent one, that the laws of health are better observed in village than in city life. Although born in the country, and much attached to rural life, as far as my observation has gone, the active causes of disease, which it is in the power of man to remove or mitigate, are by no means unknown in our villages and hamlets. The necessities of commerce, it is true, bring together greater masses of people in limited localities ; the growth of the city takes place gradually, and rarely on a judiciously prearranged plan ; no provision is made at the outset for effective drainage ; ventilation is out of the question in noisome alleys and blind courts ; land becomes immensely valuable ; till avarice triumphs over conscience, and human beings are packed together, not so much to live as to die. This subject is so well treated in Dr. Viele's instructive report to your Convention, that further illustration is unnecessary. For some of the sanitary evils of large towns there is no remedy but in the moral sentiment of the community ; but, in reference to moral sentiment, as well as to the proper province of legislation, a body like this, holding its meetings periodically, in different sections of the country, cannot but be of great importance in diffusing information on every sub-

ject connected with the public health, and dragging notorious abuses to the light of day.

Your investigations on the subject of contagious disease, and the appropriate sphere and limits of quarantine restrictions, are of great public interest. The times are indeed gone by when those names of terror, — leprosy, plague, sweating sickness, and smallpox, periodically spread their alarm through the civilized world, demoralizing society while they prevailed, not less by the dismay that marched in their van, than by the destruction of life which followed in their train. Of one of these dismal maladies, the smallpox, the terror still lives in our recent historical traditions. It was more than once a chief cause of anxiety in the American Revolution. For a time it paralyzed the besieging army before Boston in 1775. The ablest of the Massachusetts officers after the death of Warren, — and like him, too, a physician, — General Thomas, was cut off by smallpox in Canada, in the spring of 1776. Men hesitated between the remedy and the disease. Virginia, as late as 1769, had forbidden the practice of inoculation by law: and General Washington, writing to Governor Patrick Henry on the subject of smallpox, says, "it is more destructive to an army in the natural way, than the enemy's sword, and I shudder whenever I reflect upon the difficulties of keeping it out." Happily, the beloved chieftain himself was safe. On a voyage to Barbadoes in his youth, he had the smallpox in the natural way, so that, though the army was smitten, his own invaluable life was not exposed to the infection.

Smallpox, by the immortal discovery of Jenner, has been robbed of its necessary terrors; for though vaccination may not be so complete a remedy as was once supposed, the graver disease has ceased to be a subject of popular panic. But a single generation only has passed since the alarm of cholera. Much was done and observed at that time to show that sanitary measures had more to do in mitigating the ravages of the disease than medical treatment. How much anxiety and distress would have been spared, and, what is still more important, how much predisposition to disease been avoided, had enlightened sanitary views of the nature of contagion prevailed at that time as they do now! My honored friend, the President of your Convention at its present session, (Dr. Bigelow,) in his luminous testimony before our legislative committee the other day, on the subject of the prevailing epidemic among the cattle, mentioned some things within his own experience in the cholera time, which he thought would not readily find a parallel in the dark ages. I think, sir, I can go a little beyond him, in what fell within my own experience at the same time. It was in the month of July, 1832. Congress adjourned on the 16th; on Friday, the 20th, I arrived with my family, — three adults and four young children, — at Jersey City, then a very inconsiderable place, and furnishing but scanty accommodations for strangers. The regular communication between New York and the East had ceased; no boat returned from Providence on Saturday. Several members of Congress with their families, were, like myself, detained at Jersey City, and as the panic was rapidly spreading, and threatened to cut off all travel by land as well as water, the state of things was of no little concern and gravity.

On Saturday, the 21st, partly to while away the weary hours, partly from a desire to see a great city under visitation of a fearful epidemic, I determined to cross over to New York. The ferry-boat still plied occasionally in the course of the day. I had read the account of the plague of Athens by Thucydides, of that of Florence by Boccaccio, of that of London by De Foe;—I was desirous of seeing our own great metropolis under similar circumstances. Concealing from my family and friends the cause of my disappearance, I crossed the ferry, and walked through Cortlandt Street, far up Broadway. There was a greater life and movement in the streets than I expected to find, but it was still a most mournful sight. Business seemed almost wholly at a stand; more than half the population had gone into the country; many houses and shops were shut up; ready-made coffins were exposed at every corner. It happened to be the day of the greatest mortality; two hundred and twelve persons died that day. The cold gripe of death was upon the heart of the great city; terror aggravated the ravages of disease; and all the energy, the resource, the vitality of the mighty metropolis quailed for a time before the pestilence that walketh in darkness, and the destruction that wasteth at noon-day. It was a sight never to be forgotten.

The Franklin came back from Providence on Sunday, with orders not to return till Tuesday. We were able, through the kindness of a friend, (C. A. Davis, Esq.,) in the direction of the company, to cause her to be dispatched on Monday. We had a beautiful night on the Sound; the exhilarating air of the sea put all thought of infection at defiance. We were not, however, permitted to land at Newport, and we learned that the same prohibition would be enforced at Providence. After anxious counsel, we entered Taunton river, and anchored off Somerset, the frontier town of Massachusetts in that quarter. Here we procured a visit by a respectable physician from Fall River, who gave us a clean bill of health. Fortified with this, we obtained the permission of the selectmen of Somerset to land within the limits of that township. We sent to Providence for carriages, which reached us late in the day; and we then landed, drove through the cornfields of Somerset, and across Seekonk plains to Providence turnpike. It was now near midnight, and we had been without refreshment since an early breakfast. The landlord of the public house at which we stopped refused to admit us, "because we had come from the boat." I attempted to get in at the window, in the hopes of finding a cup of milk for the little ones, but he set a mastiff upon me. We were compelled to drive on, unrefreshed, to Attleborough. There, at a house kept by Mr. Perkins, we stopped. As soon as we had aroused the inmates, and made known our sad plight, the door was thrown wide open; the best the house afforded was set before us; a comfortable cup of tea and good beds made us forget the hard experience of the day; and in the morning, the bill for my whole party, three adults and four children, was, if I remember rightly, a dollar and a-quarter! Mr. Mayor, I do not know whether my humble name will be remembered long after I am gone; but, if it is, I wish the name of that good Samaritan may be remembered with it. (Applause.) I recollect the

name of the other man who had the mastiff, but I will not tell it. I dare say he acted up to his light. His inhospitality (as Lord Bacon said of taking bribes) was *vitium ævi non hominis*; the fault, not of the individual, but of the times. He wanted to protect his children, perhaps, from what he thought the danger of contagion, as I wished to get a cup of milk for mine. We drove on, refreshed and cheerful, to Polly's, at Walpole, one of those admirable New-England country taverns, of which only the memory is left, and there we got an excellent breakfast, although "the neighbors complained" of our worthy landlord "for admitting people who had come from the boat."

I have told you, sir, this rather long story to show how important it is to the very existence of the social system, which melts away under the influence of panic, that enlightened views on subjects of this kind should prevail. I have no doubt that the periodical meetings of this Convention will do much to propagate them throughout the country. Nor will this be their only beneficial effect. There is a health of the body politic as well as of the body natural. It requires for its preservation, harmony and kind feeling among the members of the great confederate system. Who can doubt that this desirable state of things will be greatly promoted; while from year to year three hundred of the most distinguished and patriotic members of the faculty are called in consultation, from the remotest corners of the republic, to lend their powerful and kindly influence in strengthening the bonds of union. (Applause.)

During Mr. Everett's remarks, the delegates designing to take the cars, left the hall amid the cheers of the company, which they returned.

The next sentiment was—

The Monumental City—Her repeated hospitality has become an established fact with Bostonians, through which she has erected a monument in their minds more pleasing than those which record her fame. We cheerfully award due praise to both, and welcome her representative to our board in the "loving cup."

Dr. JUDSON GILMAN, of Baltimore, who was just leaving the hall to take the cars, on hearing the sentiment announced, paused a moment to respond. He said :—

Mr. Mayor: I was just leaving to take the train of cars; but I wish to express my gratitude and thanks for the kind mention you have made of our Monumental City. We are allied to Boston more closely than to any other northern city. We feel at home here, sir. Most of our merchants, and professional men of eminence among us, are men of the East, and men from Massachusetts. We feel allied to you, sir, by other associations, by revolutionary memories. I am reminded that here was made the cradle of liberty,—and here it remains to-day, thank God; and may there never be rocked within it, any but the offspring of liberty and union. (Great cheering.) But, sir, the lullaby—the world-renowned lullaby, to quiet our infant republic, by which it has grown and increased to early manhood—was composed by a Baltimorean. That lullaby is, "*The Star-Spangled Banner*."

But, sir, I will not detain you or myself by any further remarks ; but, wishing you all farewell, I bid you good-night. (Cheers greeted the retiring guest.)

The next sentiment was—

Memphis—Though not boasting of the magnificence that made her namesake famous in classical history, we *cotton* to her with a sisterly regard, and prize her far more than a thousand cities with but the glory of past deeds to commend them.

Dr. C. B. GUTHRIE, of Memphis, responded in substance as follows :—

Mr. President, and Gentlemen of the Convention : We heard yesterday (some of us at least, and it was alluded to again to-day) of that man of opportunity. I am most happy in being another of those men of opportunity. Chancing to be deputed by that young giant on the banks of the Mississippi, by a vote of the Common Council, to represent her in this Convention, I return to you, in the name of the City of Memphis, the most cordial thanks of my heart, that this opportunity has been given to me to express to the City of Boston and to these gentlemen of the Convention from other cities and sections of the United States, my heartfelt thanks that Memphis has the honor of being associated in this great work of sanitary reform.

Gentlemen, if Boston “Cottons” to Memphis, how much more does Memphis “Cottonaid” to Boston in the matter of commerce ? The population of Memphis has quadrupled in ten years. If a census were now taken there would be found 45,000 inhabitants. Ten years ago she shipped 12,000 bales of cotton ; now she sends off 400,000 bales. She sends to the East 150,000 bales this year of that material, to be worked up into goods and yarns ; therefore, with great propriety may I say, that she *cottonaids* to Boston and New England. But the ties which bind us together are other than the ties of commerce ; they are the ties of brotherhood, ties that know no east, no west, no north, and no south. (Great applause.)

In the time of distress, in the time that moved the hearts of the philanthropic and good people of every section, when Norfolk sent forth on the wings of the wind, and when the lightning flashed the cry for help, when her people were decimated, and her city was prostrated under the hand of that great pestilence, who came to the rescue ? Did New York, or Philadelphia, or Baltimore, or Boston, inquire where Norfolk was ? Was there any sectional question as to whence came the cry for help ? Thank God, no. From all these cities came the ready hand and the material aid, made more acceptable by the personal assistance of nurses and medical men.

When New Orleans sent up the cry of distress and called for help, with the same ready hand the same tangible help was sent in flowing streams, till the reply came back that there was enough. Thus we see there are ties that bind us closely as brother is bound to brother. (Applause.) In the name of the South, in the name of those two cities, in the name of the Union, I claim that we are one in heart, one

in sentiment, and one in feeling ; and I appeal to this evening's entertainment, and the work in which we are engaged, if I am not right. (Applause.)

But, gentlemen, besides these ties, there are the ties of commerce to which I have alluded, and I am most happy to represent that purely commercial town lying on the banks of the Mississippi. We are bound by our commerce to New England. We have sent 150,000 arguments, worth \$50 apiece, this season, to prove that the ties of commerce are not to be dissevered by any minor and trifling questions. (Applause.) While you receive from that section of the world 150,000 arguments of that kind, we get in return, from every town and village from the Kennebec to the Hudson, missionary tracts, in the shape of hoes, axes, and curry-combs, and all that sort of thing, that go broadcast through our southern country, preaching peace and good-will and eternal brotherhood to every man in that part of the Union. Gentlemen, may the hand be palsied, and may the back be well curried, that ever seeks to break up the supply. (Applause.)

When I came into the hall, as I passed to my seat, I chanced to look upon the table, and I saw upon the right and left that flag which floats alike over us all, bearing upon the same ground the names of New York, Ohio, Massachusetts, Connecticut, and Tennessee, proclaiming that we all live under the same banner, and by it we shall stand, or under it we shall fall. (Applause.) And by another happy coincidence, accidental of course, I found placed in front of me the statue of that man just now so eloquently alluded to by the gentleman from Massachusetts, Mr. Everett, at whose shrine we all bow ; and it occurred to me, I will carry back to the South these emblems, and say that I brought them from Boston in Massachusetts, the cradle of liberty, where that flag was first unfurled, and where the voice of Washington, the statesman and patriot, was so often heard ; and I will plant them in the municipal hall of Memphis, praying that no hand may ever destroy them or the harmony that exists between the States they protect. (Great applause.)

Here is the health of the body politic (holding up the flag); this is no yellow flag of quarantine, but the red flag of health ; and, when I thus carry it back to that young giant, I shall say to them, as I say to you, At this shrine will we and our children worship, under this flag will we and our children live, and no fratricidal hand shall ever destroy it, or that union it symbolizes, and under whose stars and stripes we have enjoyed this specimen of Boston hospitality, the memory of which shall be immortal. (Vociferous applause.)

The next sentiment was, —

Science, Poetry, and Medicine — Never till now united in one person since the days of the god Apollo.

Dr. OLIVER WENDELL HOLMES being called up by the last sentiment, said : —

I blush, Mr. President, I blush to raise my voice in an appeal to the intellect of an assembly like this after words that have gone to the heart of every American present. (Applause.)

I mean to speak but two strictly measured sentences before I venture to read the few words I brought with me. First, to my friend, the Governor, whom I am always happy to meet, to whom I am always proud to listen, and who has paid me a compliment which might, perhaps, be misconstrued as implying relations which do not exist between myself and a certain mode of practice. I understand the precious, the invaluable life of my friend, the Governor, is in the hands of the homœopathists. (Laughter.) If any words of mine have led any person to think that I am one of the Governor's Aids in that capacity, I beg leave now and here respectfully to resign my imaginary position. (Great laughter.)

Secondly, to my friends and brothers of the profession, and all before whom I have the honor now to speak. I had written for your benefit a good baker's dozen of verses; but, having found that the daily press of this country has the power of supplying all that a speaker leaves out, — and something more, — I beg leave to read seven of these thirteen verses. (Voices, Let us have them all.)

Dr. HOLMES excused himself from complying with this request, and read seven of the following verses, which were received with great favor.

THE POEM.

What makes the Healing Art divine?
The bitter drug we buy and sell, —
The brands that scorch, the blades that shine,
The scars we leave, the "cures" we tell?

Are these thy glories, holiest Art, —
The trophies that adorn thee best, —
Or but thy triumph's meanest part,
Where mortal weakness stands confessed?

We take the arms that Heaven supplies
For Life's long battle with Disease,
Taught by our various need to prize
Our frailest weapons, even these.

But ah! when Science drops her shield —
Its peaceful shelter proved in vain —
And bares her snow-white arm to wield
The sad, stern ministry of pain;

When, shuddering o'er the fount of life,
She folds her heaven-anointed wings
To lift unmoved the glittering knife
That searches all its crimson springs;

When, faithful to her ancient lore,
She thrusts aside her fragrant balm
For blistering juice, or cankering ore,
And tames them till they cure or calm;

When in her gracious hand are seen
The dregs and scum of earth and seas, —
Her kindness counting all things clean
That lend the sighing sufferer ease;

Though on the field that Death has won
She saves some stragglers in retreat,
These single acts of mercy done
Are but confessions of defeat.

What though our tempered poisons save
 Some wrecks of life from aches and ails,
 Those grand specifics Nature gave
 Were never poised by weights and scales!

God lent his creatures light and air,
 And waters open to the skies;
 Man locks him in a stifling lair,
 And wonders why his brother dies!

In vain our pitying tears are shed,
 In vain we rear the sheltering pile
 Where Art weeds out from hed to hed,
 The plagues we planted by the mile!

Be that the glory of the past;
 With these our sacred toils begin, —
 So flies in tatters from its mast
 The yellow flag of sloth and sin,

And lo! the starry folds reveal
 The blazoned truth we hold so dear,
 To guard is better than to heal, —
 The shield is nobler than the spear!

Gov. BANKS retired at this time, and was greeted with cheers as he left the hall.

The next sentiment was—

“*State Medicine.*” We greet with pleasure this new offspring of Sanitary Science, in the person of its distinguished accoucheur, Dr. John Ordronaux.

To this sentiment Dr. JOHN ORDRONAU, of New York, responded as follows:—

Mr. Mayor: In the remarks which have been made by the distinguished gentlemen preceding me, I find a strong analogy drawn between myself, as the author of the resolution on State Medicine, and that insignificant insect, the white ant, which upheaves the tropical soil of Africa in the form of a nondescript tumulus. The main point of wonder there is, that so small an insect should be capable of making such a terrestrial commotion; and yet, after all, the work itself enchains us much more than the architect; and while the sand-hill, with its geometrically constructed galleries and dormitories, its granaries and nurseries, becomes the cynosure of scientific eyes, the poor, wee thing, which was its artificer, is looked upon only as cumbering the earth with its presence.

I am happy, therefore, to be recognized by you, sir, even as an humble insect in that busy sanitary hive, the honey of whose labors will in time become, let us hope, the great public detergent of all civic foulness in the land. And if it has been my misfortune—not possessing the gift of an inspired tongue, nor the *curiosa felicitas* of perfected oratory—to be obscure in the language of my advocacy, and in return to be misapprehended in the spirit of my intentions, I yet believe that an instinctive sense of the fitness of this resolution to ulterior purposes of expansion in sanitary reform, as contemplated by a future permanent organization of our Convention, must have swayed the minds of all those distinguished colleagues who gave it their countenance and support. Certainly, since the very appropriate and expositive remarks made by yourself, Mr. Mayor, in your address of welcome to this festive board, and seconded by the learned and logical

indorsements of His Excellency the Governor, the honored and venerable President of our Convention, and by him whose Hortensian eloquence, exhausting and adorning whatever it touches, speaks always in the rhythmic cadences of a language "whose law is heavenly beauty, and whose breath enrapturing music,"—certainly, after these many spontaneous offerings to the truth of the dogma of State Medicine, I am better convinced than ever, that it has a missionary labor to perform in fields of illimitable extent, where gleaners have always been few, and harvests have always been plenty. Not to one State or to one country,—not to one clime or to one age,—not to one race or civilization, is it fitted to dispense its blessings of moral and physical health; but everywhere,—at all times, and under all circumstances,—beneath the Poles, and under the Tropics,—on firm continents,—on sea-girt isles, and on the trackless ocean,—wherever social man tarries or inhabits, it should, like another universal law, found its altars, proclaim its canons, and ordain its priesthood. And, believing this, I shall be much mistaken if the action taken by the Convention to-day will not produce some significant effects upon the future of State legislation, by introducing measures into the public councils which will provide, as has already been done in Massachusetts, for the enforcement of those primordial laws designed by nature for the physical well-being of man. When we shall have fully legislated for the public health, it will then be time enough to resume that process of statutory incubation which annually produces *thirty-two* volumes of laws for the special promotion of litigation.

I cannot believe that the occasion requires at my hands any exposition either of the history or the importance of State Medicine. Its history all present are surely familiar with; its importance all the world, by universal accord, admits. We know it is not the bantling of a day or of a century. It does not belong to us,—it is not our discovery. Rich as is the nineteenth century in arts, in letters, in science,—much as it has done in navigation, in commerce, in agriculture, in manufactures, in physics and the exact sciences, it cannot, nevertheless, claim sanitary science as among its offspring. Far from it. It is older than our century,—older than our Christian era,—a part, in fact, of that canonical dispensation which sprang from the inspired intellect of the Jewish lawgiver. And it is a significant illustration, in this connection, that some of the proudest monuments of antiquity which have descended to us, have been those foremost temples of all sanitary science,—*public baths* and *public wells*. We may judge also of the high estimation in which the former were held, when we remember that Art laid its treasures in their lap, and enshrined its most precious gems within their precincts. The marble Laöcöon, which was found in the baths of Titus, and the Farnese Hercules in those of Caracalla, attest the importance which was attached to these halls of sanitary refreshment. While the reservoirs of Solomon, the cisterns of Persopolis, and the Aqua Claudia of Nero, all bear witness to the skill and grandeur of their original construction. In the presence of the peerless aqueducts and baths of the ancient heathen world, modern centuries may well stand dumb; and Science, whatever triumphs she

may continue to achieve, will yet do nothing more, can yet do nothing greater than this, for the public health of cities.

But sanitary science, aside from its practical bearings upon physical life, has, at least during the recent session of this Convention, shown us that it possesses some *cementing* qualities of a high order. Gathered as we are here, from all portions of the Union, — a parliament of physicians, lawyers, magistrates, clergymen, and merchants, — it was one of the pleasantest features of all, to contemplate the spirit of national concord and unbroken unity in which our deliberations were performed. I know that this was to be expected from the very nature of the cause which we met to advance. But expectations are not always realized, particularly so, where they rest upon the chances of an agreement between hundreds of minds, differently constituted, and seeing with a different mental vision. In the present instance, sir, whether from the Union-loving atmosphere in which we hold our councils, or some special mysterious influence from on high, we were to each other *brothers* only; and now, on the eve of parting, I will venture to say, that there is not a heart in this whole assemblage which does not feel a pang of regret, or wish that the bitter moment could be avoided.

I believe that an excellent reason for the public sympathy which has accompanied us in our labors is to be found in the fact that we are not reformers, in the more odious sense of officious intermeddling, which that term so often conveys. We are not here as political reformers, preaching the time-serving dogmas of expediency. We are not here as social reformers, to reform either the spirit or the organization of human society, by unsexing woman or communizing the family circle. We are not here to foster or to favor the speculations of any sect of philosophers or religionists. We are neither Aristotelians nor Platonists; neither followers of Augustine, nor of Athanasius. We are here to take men as we find them now, and not as they would have been had they never fallen. Our dealings are with society as it is; and the duty we undertake is, to pluck physical evils that are preventable, out of the bosom of communities, and, wherever possible, to turn the streams of sanitary reform and of health through the Augean Stables of civic filth. (Applause.) By such means do we hope to temper the anguish of honest poverty, — to diminish the temptations to crime, and to pave and smooth down the pathway of the city missionary and colporter, who will find their labors all the more successful for our having gone before.

Mr. Mayor, in your very chaste and eloquent salutatory at this board, you were pleased to say that Boston would be the better for our visit. This is saying too much. Admit even the mutuality of pleasure which these three days of good-fellowship have imparted to both hosts and guests, and we are still left hopelessly in your debt, — a debt, too, from which no court of insolvency can absolve us. I thought I knew something of Boston, for no man can be a stranger here who has ever drawn sustenance from the overflowing bosom of mother Harvard. In my student days, I have often been the recipient of the generous hospitality of your fellow-citizens. But I confess, sir, that, in the present instance, Boston has altogether outdone herself in warmth of

cheer; for, not content with hanging the latch-string outside the door, her citizens have taken the doors off the hinges, and the shutters off the windows, and written over both, in largest letters, WELCOME.

No wonder is it, therefore, that many of us, coming here to refresh our patriotism by a visit to those scenes of revolutionary interest where the earliest martyrs fell, and to those shrines of civil liberty where our national life was first cradled, should be lost in admiration of all we have seen, and overcome with gratitude for all of kindness we have received. No wonder is it, sir, that, finding ourselves in the midst of this galaxy of great names, poets, orators, statesmen, and philosophers, we should feel that the old Athenian "mother of arts and eloquence" had been fully rivalled by her young American namesake. Go where we may,—look where we please,—measure, weigh, and consider what we will, whether in her outer life of public action, or her inner life of private conduct, and it is everywhere written that *perfect excellence* is the presiding genius of Boston. In arts, in science, in letters, in municipal government, and in the humanitarian graces of philanthropy and Christian works, she takes deserved precedence of all her sister cities. Her public monuments, her ancestral reverence, her careful preservation and culture of all that is national and American,—ay, the very house-walls do proclaim that living patriotism is both the care and the creed of her daily life. Life is well worth living for, to visit such scenes as these, and to spend an hour in such companionship as this; and for one, I shall again return home, Mr. Mayor, each time better convinced than before, that all other places are but intellectual Mantuas when compared to this intellectual Rome; for, to my eyes, in this respect,—

"All other towns, compared with her, appear
Like shrubs, when lofty cypresses are near."

The next sentiment was —

Brooklyn—Associated like her sister city, New York, in our respect and love, her citizens we gladly welcome as the true representatives of her growth and prosperity.

Dr. C. C. SAVAGE, of Brooklyn, in the absence of Mayor Powell, who had been called home, responded to this sentiment briefly. He felt that Brooklyn had been truly honored in the Convention. You have echoed the sound of that bell (Dr. Bell, of Brooklyn) in this Convention, by adopting the report on External Hygiene, and its sentiments will go throughout our land, and I trust to other lands, and that an influence will result from it to ameliorate the laws of quarantine to such a degree as to show that man is a progressive being in civilization, and that savageism shall no longer reign. We should have been most happy to meet the Convention in Brooklyn the coming year; but waiving our claim, I trust that you will be properly welcomed in the Queen City of the West.

Mr. Everett retired from the hall at this time, and was greeted with three cheers.

The next sentiment was —

The Cause of Sanitary Reform—Closely allied to the eommereial interests of the eountry.

Gen. Prosper M. Wetmore, a representative of the New York Chamber of Commeree in the Convention, responded, being obliged to speak under the embarrassment of a hoarseness quite severe.

He said : Unfitted as I am, sir, for the duty, by severe indisposition which must be too apparent to the company, yet I eannot refrain from the attempt to express my thanks to Your Honor, for the eompliment implied in the invitation to speak to this sentiment. And while offering you these, my eordial aeknowledgments of your eourtesy, I will venture to trespass a moment on your indulgenee.

As you have alluded to my eonnection with the eommeree of New York, I will avail myself of the opportunity to express my sense of the honor eonferred on me as bearer of ereentials from the most aneient institution eonneeted with the objects of eommeree in our eountry; an institution whose history goes back far into the past, many years anterior to the Revolution. It is a souree of grateful pride to me to reeall in this presenee, the faet that to the merehants of the eity of New York is due the ereдит of having instituted the first great movement which resulted in the adoption of those measures which led to the establishment of our national independence. The first regularly organized meeting of which there is any reeorд extant, was held by the merehants of the eity of New York, at which they adopted resolutions of rigid non-intercourse with the parent eountry, so long as the Stamp Act remained in existence, and from that body went forth four delegates of the six from the State of New York, to the first Congress ealled to eonsider the eondition of the eonfederacy. I will not enlarge upon this topie, but I eould not omit to notiee it while breathing an atmosphere filled with the historieal assoeiations of days gone by.

Mr. President, while reeurring to these ineidents that give us an interest in the past, I trust I may be permitted to dwell briefly on the great pleasure I have derived from visiting and admiring a few of the well-preserved antiquities of Boston. As the evidenees of age inease in my own person, I find that my love of antiquity daily grows stronger and stronger. In approaehing your eity by the Old Colony Road two days ago, it seemed to me that I was entering another Veniee, surrounded as you are by sueh an opulenee of waters. My thoughts involuntarily turned to what I had read of that beautiful eity seated on the elassie Italian sea, and I was eharmed with the prospeet before and all around me; but when I notieed that, differing from the dwellers in that aneient Commonwealth, (now, alas, lying prostrate beneath the foot of despotism,) you were gathering up the waters, and easting them aside, to extend the suburbs of your fast-inereasing eity, I thought how beneftently you were carrying out the great enterprises of eommeree and the mission of eivilization. How mueh better, I thought, that a young Boston should spring up, like the fabled goddess, full-grown from the seas, rather than that those beautiful waters should beome stagnant and serve only to bear the luxurious gondolas of an enervated people. Every man, it seems to me, sir, who eomes to Boston, eomes to see something that is

old, something that has a history. I love to look upon these relics of the past, and my first steps on my arrival you may be sure were turned to Boston Common, and to that noble old Mansion, which, with its time-defying aspect, looks down upon the green slopes and broad aisles, made dim by the overarched and interlacing boughs of ancient trees. And I stood by the side of that venerable Elm, preserved with a sacred care by the good taste and fidelity of the citizens of Boston. While I stood in silent awe within its shade, I could almost imagine that I saw passing beneath its wide-spreading branches the soldiers of the Continental line and the train bands of Boston, flushed with the triumphs of the Charlestown hills and Dorchester heights, following with elastic tread the footsteps of the sullen receding foe, and keeping time to the stirring music of their own high thoughts. (Great applause.)

I have stood also in Faneuil Hall, and there again I could not but admire and applaud the same good taste and fidelity of the citizens of Boston in preserving intact that time-honored edifice, whose walls have reverberated with the eloquence of Otis and Adams in former times, and with that of Webster and Everett in the present. (Applause.)

And, sir, I have ascended the heights of that granite column from which we are enabled to look down upon the sacred soil saturated with the blood of Warren, and which marks a spot of earth whose glory shall outlive all memorials. My view extended through the space opened to me within which I could see Cambridge and the classic groves of Harvard. Your unintermitted courtesies, give me leave to say, sir, have not as yet permitted me to set my feet within the bounds of that growing city; but I know that there stands the mansion doubly honored, in the past and in the present, where Washington once made his home, and which, therefore, shares in the lustre of patriotism that followed him, living, and gilds his memory for all time to come; and where also, in these, our own times, dwells one who, inspired by the genial muse sends forth from the same hallowed scene his eloquent and harmonious strains, that come to us in our thoughtful moments like the sweet and solemn voices of the night. (Great applause.)

Sir, it is for these, among other considerations, that I am delighted with what I have witnessed and learned since I came to Boston. This little pebble which I hold in my hand, I found yesterday, where it lay glistening in the beams of the mid-day sun, upon the sands of the shore washed by the waters of Massachusetts Bay. With this white stone do I mark in my calendar the first day I ever passed in Boston. (Applause.)

I cannot better allude to the scenes and incidents which have filled my mind with the most grateful recollections and associations, than by using the eloquent words of one of the sweetest poets of New England, — of my own native New England: — such scenes as these

“ ————— are pilgrim shrines,—
Shrines to no code or creed confined—
The Delphian vales, the Palestines,
The Meccas of the mind.”

In conclusion, Mr. President, I beg leave to offer a sentiment

which briefly expresses the gratitude that fills my heart, and which I would fain venture to put more fully into words, if I had the voice left in which to utter them :

The City of Boston : honored in the past generations for its patriotic love of liberty ; in the present, for its veneration for antiquity, and its graceful courtesies of private hospitality. (Great applause.)

The next sentiment was —

The Boston Sanitary Association, established for the promotion of the public health ; yet ever subject to an attack of the Quinsy.

HON. JOSIAH QUINCY, JR., in responding to this sentiment, said :—

When the quinsy is introduced into a sanitary association, the first thing they naturally desire is to get rid of it as soon as possible, and I will endeavor to relieve you in a very brief time. (Laughter.) But I cannot help alluding to the peculiarities of this meeting. We read in the ancient Jewish records of a certain feast where men were expected to take their meal with their loins girt about and their staves in their hands ; but I believe this is the first time I ever had the honor of being present at a dinner where men had their trunks packed and their tickets in their pockets. But they have been able to do one thing that I do not think even Moses himself could have performed, and that is to stop an express train on the Old Colony Railroad for four hours. (Great laughter.)

But there is one remarkable fact connected with this meeting. A great majority of the members are of the medical profession. I have heard that a celebrated doctor, at one of his lectures upon Sanitary Science, urged upon his pupils to be faithful in ascertaining the mode of preventing disease, and to be eloquent in urging others to apply it. He added, You will say it is not our business to prevent disease ; our profession is to cure it when it exists. You need not trouble yourselves about that, said he ; there is not a rascal of them who will ever follow your directions.

There is a country where the doctor receives a salary so long as the family under his care is well, and it stops the moment any one of them is sick. But here the gentlemen engaged in a profession by which they obtain their support from the amount of sickness in the community, are the most earnest in promoting the sanitary condition of the community. In allusion to that, I would express as a layman the high sense I entertain of the medical profession in the United States ; and I would give you as a sentiment : —

The Physicians of America : The advocates of good learning and liberal practice ; always ready to heal the diseases which their foreknowledge and forewarnings could not prevent. (Applause.)

The next sentiment was —

“Newark and the State of New Jersey.”

To this sentiment, Alderman Ball, of Newark, responded. He said : —

Mr. President: While I am proud that the representatives of so many of the principal cities of this glorious Union have seen fit to notice our obscure city, I regret that our beloved Mayor Bigelow has found it necessary to retire to his home. He would have been happy to remain here if the circumstances of his family would have permitted, and to respond to this sentiment. New Jersey is still in the Union, and whenever the history of this country is written, and by whomsoever it is written, New Jersey will be remembered. It will be remembered that New Jersey, in our struggle for Independence, was instrumental in doing much to bring about that event. While our army suffered much in that State, it was in that State that it achieved many of those glorious deeds which led to our Independence. While you have near your city the place once occupied as the headquarters of the commander, we have to show you in Morristown where the Father of his Country also remained for a considerable time during that struggle for liberty. And if we may believe in the return of spirits to this world, we may suppose that the Father of his Country would love to return to New Jersey and linger about the waters of the Delaware and about our State Capital, where was done so much to accomplish our Independence, and especially where he accomplished that glorious victory on the banks of the Delaware, on that stormy and cold night of December.

You have spoken, Mr. President, of the manufacturing interests of our city. It is true that we depend upon manufactures for the glory of our city; and this, too, has given us a national feeling, for we sell to our brethren in the South, and furnish them with our manufactures, and to them we are indebted for the glory of our beautiful city. And we feel an attachment to the South, the East, and the West; and it may be said of us that we know no East, no West, no North, and no South. We are national. While we love Massachusetts, we love South Carolina, we love Alabama and New Orleans; we love the Union. (Applause.)

We are happy to say that the Sanitary Conventions heretofore held in different cities, have been of great benefit to us in Newark. The works you have published, the information you have given, have done us much good. Having been a member of the City Government, I have found with others that the measures recommended have been valuable, and have enabled us to add greatly to the health and happiness of our city. And as many in our city labor for a living, — and I am happy to represent those who labor, — I am happy to say that your influence will bring to those laborers a great boon. It was said by him who spake as never man spake, "The poor you have always with you." We have the poor with us, and I am happy to know that many noble men have reported plans for tenements for the poor, and have recommended such as will be for their happiness and comfort. What greater work can we accomplish than to bring health and happiness to the poor through the labors of this Convention. While in many cities quarantines have been abolished, I am glad that the poor have not been forgotten. Let us go on and do what we can to promote their happiness, and if we can introduce health and comfort

where now there is disease and death, then it shall not be said of us, "I was sick, and ye visited me not;" but it shall be said that the blessing of the poor is upon us, — even of those who were ready to perish; and it shall be said, "Come up; inasmuch as ye have done it unto one of the least of these, ye have done it unto me." (Applause.) In the glorious work you have commenced, go on.

I thank you, in the name of the Mayor and City of Newark, that among the glorious States of this Union you have noticed our obscure city, and I can assure you that we are going forward, and we shall endeavor to carry out those sanitary measures upon which you have greatly enlightened us.

The next sentiment was —

"The Sanitary Association of New York City."

Gen. F. E. MATHER, of New York, on rising, playfully protested against his treatment in not being notified that he was to respond to the sentiment before. He said he was treated like the Dutchman's sourkrout, as being ever ready. (Laughter.)

He said he did, in one sense, represent the Sanitary Association of New York, which he believed was fairly and honestly entitled to the credit of being the pioneer in this work, so far as a local organization is concerned.

But, said he, if I am to speak, I desire to speak on a matter in vindication of myself. A few years since, in exploring your beautiful city, I discovered in a cemetery on Copp's Hill, an ancient and unpretending monument; and on the tablet I read, with peculiar emotions, this inscription: "'Tis the tomb of our fathers." To explain this, I wish to say that if you — and by you I mean Bostonians — claim to be the descendants, either literally or figuratively, of those ancient worthies whose ashes repose there, then I say that I, though a stranger, am your brother. (Great cheering.)

Now, sir, I claim, in all the frankness of fraternal sincerity, to come to you and state to you my grievances, and to apologize to you for any reproach which I may have brought upon you and our common ancestry. At the last banquet in New York, I was literally and physically forced to open my mouth against my will. On that occasion, I endeavored to indulge in a little pleasantry. I had no idea that my remarks were to be placed on record as permanent. But I have since seen in print remarks imputed to me on that occasion which I disclaim. You know there is such a thing as written history and unwritten history. You will recollect that the first white settler on this peninsula was a man by the name of William Blackstone, not that great commentator whose commentaries I and others of my profession have been obliged to peruse; but he was a regular John Bull, and, though he hated the lord brethren, he left England because he hated the Lord Bishops; and, though he was a devoted loyalist, he established a pure democratic government on this peninsula, and conducted it with such entire success that for years there was no dissenting voice on any public question. Though he hated the lord brethren,

ren, he was of a convivial turn of mind, and invited those on the other side of the river to come and dine with him. There was where your venerable Governor Winthrop got into trouble. This is unwritten history, but it is true. Now, though Blackstone hated the lord brethren ecclesiastically, that did not prevent good fellowship with them socially. Mr. Winthrop came over with some associates, and they had a good time. And it so happened that they had reporters then, as we have them now, and they made a note of Governor Winthrop's post prandial speech. Matters thus went on well enough till Winthrop and others got the consent of Blackstone to come over here and establish a foothold; and, although they were Englishmen, Yankee-like they got such a foothold they lifted the old fellow out of this peninsula, and then Winthrop was made Governor. That state of things continued for a time, until at length there was an opposition to Winthrop got up. And there is where written history errs, for that puts the opposition on the ground that if they continued to elect him year after year, he would eventually become Governor for life. But the fact was, Winthrop was superseded by another man because of the dinner speech he made, and of which a note had been taken.

I could not allow this occasion to pass without disclaiming the speech attributed to me last year, and showing that written history is not necessarily true. I give, in closing, —

The Progress of Sanitary Reform — Perseverance until we accomplish the full work in which we are engaged.

The next sentiment was to —

"The Clergy."

To this sentiment, Rev. Dr. LOTHROP, of Boston, responded thus: —

Mr. President and Gentlemen of the Convention: Possibly, I have not any explanations to make about any remarks that I made last year; therefore, I must be brief. I thank you for the kind allusion you have made to my profession, and in their behalf I may say that I sympathize heartily and deeply in the objects which have called you together this year. I may say to my friend from New York, (Gen. Wetmore,) that we shall not need any white stone in our calendars to remember the meeting of this Convention in this city; we shall bear it in our hearts forever. (Great applause.)

I only want to give expression to one sentiment more. I heartily respond, as I am sure every man does, to the remarks which fell from our friend, Dr. Guthrie, of Tennessee. (Good, good, and cheers.) I have been accustomed from my profession to have a great reverence for a man of great influence in the world, — a man by the name of Moses. If you read his history, you will find that he established certain feasts that brought the people together from various parts of the country; and it was through the influence of these feasts, and the power of these social feelings, that the Jewish nation was held together as one man. (Applause.) It is the social principle, the bringing together of men from all parts of the country, from the East and the West, the North and the South, that leads them to forget all their peculiar points of the compass, and to remember only that they are

one body and one people. It is that social principle, gaining the affections of our hearts, which is to preserve this Union and this people forever. (Great applause.)

I give you therefore, in conclusion, a sentiment in correspondence with these remarks.

The Quarantine and Sanitary Convention. Their annual meetings, while they serve to preserve the physical health of the people, they will serve more strongly to make the pulse of the moral, social, and patriotic health of the people beat with a more firm and steady throb (Applause.)

The next sentiment was —

The Past Presidents of the Sanitary Convention.

Dr. JOHN H. GRISCOM, of New York, in response, said : —

Mr. Mayor: Mentioned in that notice, simply as a memorial of the past, I hoped to have been overlooked on this occasion. But, sir, I am happy to seize upon the opportunity to present to this audience a thought which does not seem to have occurred to any one, and the only one, perhaps, which has not, in the rich profusion of intellect that has been poured out upon us, and which I cannot hesitate to present at this time, and which I beg that every individual will carry home with him and treasure up. Mr. Mayor, Massachusetts was the birthplace of the revolution, the political revolution of our country. It is also, sir, the birthplace of the sanitary revolution of the country; for it is the very first State in the Union to adopt the Sanitary Declaration of Independence which was promulgated in New York last year. She stands upon two pinnacles, one political, the other sanitary, a beacon-light from both, reviving and diffusing their broad rays all over the world.

And this brings up another thought, which is that this Sanitary Convention, now but four years old, is about to become a mother. The conception has already occurred; next year she will have a full-grown daughter, a daughter which shall take her place upon the stage of action and continue to carry forward the great work which the mother has commenced. We shall have next year, I doubt not, the American Sanitary Association, which will live until her work shall be performed and her need shall be no longer. (Great cheering.) So let me return to this great code of sanitary reform which Massachusetts has adopted almost *in totidem verbis* as it was presented to the world. I allude to it to call upon his feet the author of that code, Dr. Henry G. Clark, of Boston.

Dr. H. G. CLARK, of Boston, being thus called up, said : —

Mr. Mayor, and Gentlemen: You, who are my friends and neighbors, know very well that it is not at all my custom to speak in public. I have only been too happy to be a listener here; and now I only rise and thank you for the opportunity to do so, not so much for the compliment to me, but for your assistance in carrying out the Sanitary Code, of which I was not the author, but only the compiler so far as I was able. But I will not occupy your time which may be more pleasantly occupied by others. I will, therefore, conclude by reading a sentiment.

The Health of one of the first Sanitaricians and one of the first men in this or any country. The illustrious Surgeon of New York, Dr. Alexander H. Stevens.

On rising to respond, Dr. STEVENS was received with great cheering. He said : —

Mr. President: Had I been permitted to appear without such a flourish of trumpets, I should have appeared in a way that would have suited my own wishes better. I have been a young man, and am now an old one, and among this large audience there are not a few who have owed to me some portion, perhaps no small portion, of their medical education. The sons of such are also, in no small numbers, among my present auditors. And somehow or other I have contracted a habit of trying to extract from all the scenes of life some great truth which, perchance, it may be worth my hearers' while to carry away with them and to remember, and in so doing, to remember me as we are fain to be remembered. And the great danger which comes upon me here,—having traversed a great part of New England on my way to Boston, going through New Haven to revive my college recollections, turning off to Middletown to see a son there in the process of education, going to Pittsfield to see another son who has there made a home, and coming thence to Boston,—the prominent idea in my mind has been, what a wonderful country, what a wonderful people, what untold wealth is here in New England! What is the source of all that wealth? I said to myself. Not in the ice, not in the granite, not in the hard soil, not in the mild climate. No sir, it is in the men of New England. One New England man, educated in New England fashion, is worth more than three common men. (Great applause.) And whence come these men, sir? From a class of society whom you have ignored, sir; and when I was solicited to speak, it was in behalf of our mothers, and sisters, and daughters of New England, whom we ought to remember before we go away, as the educators of our boys in bringing them up to be the producers of this wealth which so surrounds us. Sir, I am done. (Great applause.)

The next sentiment was —

"*The United States Army*," to which Lieutenant McLAUREN responded, by offering this sentiment : —

The American Sanitary Convention — May their laudable efforts for the promotion of the public health be crowded with eminent success.

The MAYOR. We have a gentleman present, of whom every one who is acquainted with our history, is proud, one who was in the last century in the United States army. I give you —

Another half century of years to the gallant Col. Thomas Aspinwall. (Applause.)

In response, Col. ASPINWALL said : —

Mr. Mayor: I do not think that I ought to complain, because what you have done is intended as an honor to me; but I am afraid you have only introduced me to this assembly to dishonor myself. I am

not a speaker, but I feel very grateful for the honor you have done me in calling me out on this occasion. If anything in my past history is thought worthy of praise, I am sure I owe it more to the opinion of the gentlemen who are around me, than to any particular merit of my own. I happened to be a Vice-President of this Sanitary and Quarantine Convention. It is a place I did not covet, but which was in a manner thrust upon me, and to which I did not feel myself competent. But in the great objects of the Convention, I felt my heart very much interested. I have been gratified to meet so many gentlemen from different parts of the country, intellectual and scientific, qualified not only to accomplish the objects for which they were called together; but also, I may say, from some little experience, qualified to compete with the scientific men of Europe. The reports that we have had are of a character that I am sure, in after days and even at the present time, will not only meet with the approbation, but many of them with the admiration of the scientific men of Europe.

Another thing which has pleased me has been the evidence of the progress and improvement of medical science in this country. To compare yourselves with those who lived in former times, every gentleman of the medical profession is aware that Hippocrates is looked upon as the father of the science, and, I dare say, every one of them thinks he is to be copied in all things. But look into the history of that man, and compare his views with those entertained at present. Hippocrates was asked by some of the people of Illyricum and others, what was the best mode to protect themselves from the plague. He refused to answer, and asked them which way the prevailing wind blew. Hippocrates, I suspect, was a little of a political temperament, and looked at the weather-cock. (Laughter.) He was more careful when Attica was exposed to the plague, to which place he belonged; for he taught the people there to take care of themselves. He was literally a "State rights" man.

But we find men here who are giving up their own living to prevent diseases by which they obtain their living. This is the difference between ancient and modern times.

Mr. JOHN C. WYMAN, of Boston, was next called up, and he acknowledged the distinguished honor of being called upon to speak.

Not having been present at any of the meetings of the Convention, he related an anecdote expressive of his views, intended to show his very favorable opinion of this part of the exercises in which he had participated this evening. If this entertainment was an exposition of sanitary science, he must consider it a very rational one at least. Every such scene as this teaches a lesson and has a moral, as it proclaims the advancement of science in this century.

There was a time when Naaman the Syrian was smitten with that fell disease, leprosy, and when he sought the advice of Elijah the prophet. Having in vain tried all sanitary measures, he went to the prophet, who told him to wash in Jordan. But the king desired to know why Arbana and Parphar were not equally good. But, influenced by friends, he went to the right stream and found relief. Since that time we have found in the Schuylkill, Croton, and Cochituate, sure and specific remedy for diseases.

This indicates advancement, and may every water-work, wherever it is established, be successful in aiding sanitary reform, and may there be one established in every city, so that the Convention may have a right hand to work with.

The next sentiment was —

The City of Charlestown.

Mayor DANA, of Charlestown, said: You will pardon me, Mr. President, for saying that I am proud to represent the city of Charlestown, which holds the consecrated soil of Bunker Hill, and the noble monument which is upon it; and whatever others may do, we who dwell near that soil are determined to protect it and the monument upon it; for that column stands on Union, and that Union we are bound to stand by and protect.

It may not be known to all the members of this assembly, that I have the honor to represent this evening, a city which contains, in point of territory, the smallest area of any municipality in this Commonwealth, and probably in any State in the Union. Our territory has an area of but about six hundred acres. After deducting our public streets, squares, and that devoted to the Monument, you will see that there is but a small area for purposes of residences in that city. We have now some twenty-five thousand (25,000) inhabitants. Probably the area of the city which can be made use of for purposes of habitations, cannot be more than double which is already so occupied; and we shall soon present in this Union the first municipality which contains the maximum of population, which its area will allow. Therefore the deliberations of this Convention are of great interest to us. If any city in the Union has need of air, of light, of drainage, and of ventilation, it is ours. We have the noble Mystic on the east, and the Charles on the west, so that we have every opportunity for drainage, and if the drainage in our city is not complete and good, the fault rests with us alone. We deem the subjects which have claimed the attention of this Convention as among the most important for public consideration. This Convention has met for no local, no political purpose, but for a purpose which should engage the attention of every community, of every city, in this country. No matter from what section of the Union we may come, we are all alike interested in it. Every commercial city, every manufacturing city, is interested in the deliberations of this Convention.

At this late hour, I will not further trespass on your indulgence; but, thanking you for the honor you have done me on this occasion, I will offer a sentiment.

The National Quarantine and Sanitary Convention. May God speed it in all its efforts to improve and ameliorate the condition of mankind. (Applause.)

The President then briefly called attention to the fact, that the next day was the anniversary of the Battle of Bunker Hill, and stated that on the Monday following, the day would be suitably commemorated in Charlestown, and invited so many of the gentlemen from abroad as

could remain, to avail themselves of the opportunity of seeing one of our holidays.

He then offered the following sentiment, which had been handed to him, and which he considered eminently due to Col. Stevens : —

Our Host, Col. Stevens, the founder of six sanitary hospitals — the Revere and the Tremont, of Boston; the Fifth Avenue, of New York; the Continental, of Philadelphia; the Battle House, of Mobile, and the Point Clear Hotel, of Alabama.

Three cheers were then given for Col. Stevens.

MR. JNO. C. TUCKER, of the Common Council of Boston, here rose and alluded to a gentleman present as one who had done more than any other man in Boston, by personal labor, in elevating the character of its public institutions, — and he hoped they might hear from him, he meant the late President of the Board of Directors of Public Institutions, Hon. Moses Kimball. (Applause.)

MR. KIMBALL accordingly rose and spoke as follows : —

MR. MAYOR : After the modifications that have been made in quarantine regulations, through the effect of the light reflected upon the subject by the action of the Convention, I think I was right in hoping I should escape an embargo on this occasion. But, sir, your will, backed up as it is by the formidable crowd between me and the door, is law, and I have nothing do but to obey; though, after the honeyed words of eloquence that have fallen from classic lips, and the teachings of wisdom and instruction that we have listened to from the richly stored minds of the scientific gentlemen from abroad and of our own city, I would much rather have been excused.

I do not agree with my friend who called for me, that we have had too little of Boston men this evening. I think our time has been much more advantageously occupied in listening to the gentlemen who have addressed us. Yesterday, I thought we had too much of Boston, and too little of our guests; but you, Mr. Mayor, knew what you was about, and what was best, for then you only made a display of the light arms, keeping the heavy ordnance for this evening. The result, sir, I think, is a compliment to your judgment in the matter.

I know not that I can add anything of interest to what you have already heard. Honored, in consequence of my connection with the Public Institutions, by having been repeatedly appointed one of the delegates from Boston, I have endeavored to give the subjects considered whatever of knowledge or ability I possessed. The result of my observation is, that, in my belief, the meetings of the Quarantine and Sanitary Conventions have been the most beneficial to mankind at large of any ever holden in this country. To be sure, sir, the scientific and medical terms so frequently and necessarily used in the debates, were at first nearly as unintelligible to me as Choctaw; but so clear and forcible were the arguments advanced, and so much of interest contained in the business of the body, and such a vast fund of practical information communicated, that the most obtuse could not fail to become a learner, and to be benefited by what he heard. Like that

great humanitarian and lover of his race, the immortal Jenner, who gave to the world that most potent preventive against that loathsome disease, smallpox, in his discovery of vaccination; so we have found assembled in these Conventions the learned and the celebrated of the medical profession, some of them coming from a great distance, with much loss of valuable time, and at great expense, — ignoring what, in the popular belief, is the first cardinal principle of the medical profession, viz: “always to be certain and charge the visit,” and laboring not how to cure sickness, nor how to swell the business and emoluments of the profession, but desiring, from their long years of experience and research into the causes of disease, to teach people how to keep well and do without the doctor. All honor to them for their disinterestedness. Would that we had more amongst us who thought less of gold, and cared more for their fellow-man.

It seems to me, sir, not improper here to speak of what our city has done in regard to these Conventions. Upon the first suggestion of the movement, she responded, as she does to all good measures, with her whole heart. Our best physicians lent their valuable aid, when the project seemed to be merely an experiment, and, by their knowledge and large experience, did much toward the successful result that has been arrived at. In my opinion, sir, if nothing more had been accomplished than breaking the shackles of the barbarous system which had so long existed of quarantining vessels, with all its injustice, inconvenience, and inhumanity to travellers, and loss of millions of dollars to the commerce of the country, that alone would be worth the work of a life. But, sir, the Conventions have done much more. They have aroused public opinion in sanitary matters, and awakened legislators to the importance of the subject. By its adoption of the sanitary code for cities, reported last session by Dr. Henry G. Clark, our own City Physician, they have conferred upon humanity a blessing without price. Heretofore, Boards of Health have been crippled for the want of law to accomplish all that the public good required should be done to prevent disease. Now, sir, thanks to Dr. Clark for his personal efforts, and thanks again to another of our citizens, who worked bravely and energetically for reform, as he always works untiringly and understandingly in whatever he undertakes, — I mean Mr. Joseph M. Wightman, — you have law that enables you, Mr. Mayor, with your associates of the Board of Health, to enforce sanitary measures; for some of the most important provisions of the Sanitary Code of the Convention are embodied in the New General Statutes of Massachusetts, that went into effect on the first day of the present month. You can now, sir, enter upon premises, and compel the right. The ignorant and degraded can no longer legally, in Massachusetts, live in the poisonous atmosphere of dens and holes, whether under ground or above ground, festering and rotting in their own filth, contaminating a neighborhood, and breeding disease. You have the right to stop it, and I doubt not the city will feel the advantage of your efforts in the right direction. Give such people pure air, and compel cleanliness, and the reduced scale of our bills of mortality will tell a flattering tale in the future.

But, sir, the subject is a prolific one, and increases in magnitude and importance as we consider it. At this late hour, I have not time, nor have I the ability if there was time, to do it even a tithe of justice; and while I feel truly grateful for the attention paid me for the few minutes I have occupied, my only regret is, that every one who hears me should not have been able to have listened to the deliberations of the Convention which has just closed.

The Mayor then dismissed the company.

A P P E N D I X.

QUARANTINE REGULATIONS

AS APPROVED BY THE

N A T I O N A L

QUARANTINE AND SANITARY ASSOCIATION

OF THE

UNITED STATES.

1 8 6 0 .

APPENDIX A.

QUARANTINE REGULATIONS.

AT the Third National Quarantine and Sanitary Association, held in New York, April, 1859, the following Resolutions were adopted, and the undersigned were appointed a Committee in accordance therewith :—

Resolved, That the operations of quarantine should not be confined to the warm months of the year; inasmuch as a vessel, arriving in midwinter, with smallpox or typhus on board, is as legitimate a subject for quarantine as one arriving in midsummer.

Resolved, That the adoption, by the commercial nations, of a sound and well-digested code of marine hygiene, and of the necessary measures for insuring its strict enforcement, would tend greatly to alleviate the evils of the present system of quarantine, and promote the comfort of passengers and crew.

Resolved, That this Convention appoint a Committee to consider and report in what manner the foregoing resolutions may be most effectually carried out.

Resolved, That the Committee report, at the next meeting of this Convention, (in Boston, June 14, 1860,) specific recommendations of principles and measures of quarantine, as severally applicable to yellow fever, cholera, typhus fever, and smallpox, having reference also to the variations which different localities require.

The Committee, to whom the above resolutions were referred, have taken much pains to obtain all the information possible on the subjects to which they relate; and they are under lasting obligations to the Honorable LEWIS CASS, Secretary of State, and to the Honorable JOHN APPLETON, Assistant Secretary of State, for the procurement of printed copies of the quarantine regulations of the principal commercial nations; also to the Health Officers of the chief seaports of the United States, for the health regulations and ordinances which have been, or are now, in use in our own country. From these and some other resources, the Committee on External Hygiene have had abundant means for appreciating the Quarantine Regulations of different nations and places, and of comparing them together in such a manner as to promise a fair prospect of presenting a code of marine hygiene applicable to all the varying circumstances of commerce.

The strongest evidence of human progress is the conquest of science over error and superstition. When, in 1831, the cholera left India for a tour of Europe, after having travelled over the continent of Asia, every government it approached essayed to put a stop to its progress

by the powers of quarantine. Equally vain were the like forces on the continent of America. The cholera rode over all quarantine restraints, — bid defiance to all such antiquated barriers. About this same period of time, CHERVIN, the great student of yellow fever, was battling against the quarantine ordinances of France, as worse than useless for the protection of the French frontiers against this disease; and the triumph of cholera over the quarantine which was to keep out yellow fever, was regarded by Chervin as a strong argument in favor of his views against quarantine, — for the abrogation of the odious ordinance of 1822. Confidence in quarantine regulations for the prevention of plague was also forfeited in a great degree by frequent recurrences of that disease in places the most rigidly guarded, whilst other places, exempt from stringent quarantine regulations, were free from this much-dreaded disease.

The conquest of Algeria by the French placed the government of that country under the necessity of reducing, from time to time, the burdens of quarantine which had been previously imposed, even when the States of Barbary were free from the plague. These reforms, however, were strenuously opposed, particularly by the sanitary authorities of Marseilles, who had been for a long time accustomed to exercise the most arbitrary powers in this regard; also by the Health authorities of Italy, who went so far as to accuse France of opening the port of Marseilles to the plague.

In spite of these oppositions, however, reform steadily advanced. Two Commissions confided to M. de Ségur Dupeyron, the Inspector of Quarantine, who, though a contagionist, clearly displayed in his reports the vices and incoherences of the system; a collection of the published opinions of many men distinguished in science, by M. Aubert-Roche; the exemption experienced by the French mail-boats; and, finally, the remarkable report of the Academy of Medicine, of Paris, upon the plague and quarantines, — all concurred in the propriety of a complete reform.

On the 18th of August, 1847, a royal ordinance of France declared the first recognition of truths based upon the opinions of medical men, that many of the restrictions of quarantine were unnecessarily burdensome, and therefore abolished. Still other reforms were established by decrees, on the 10th of August, 1849, and on the 10th of December, 1850. But it was not enough for the eminent sanitarians of France to have accomplished a reform in their own country, and for their own commercial ports; this was only a beginning of the work. They proposed to show that it was to the interest of the commerce of other nations to accept the reforms which they had effected for France. And Dupeyron suggested to the Ministers of Commerce the idea of a Sanitary Congress, formed by delegates from the divers powers having seaports on the Mediterranean. The Government adopted his opinion, but, on attempting negotiations, failed in accomplishing its intended purpose.

In 1850, M. Mêlier, member of the consulting committee on public hygiene, renewed the proposition of Dupeyron, and with more success. Mêlier submitted a programme, which was agreed to by all the govern-

ments interested; and a convention was formed by delegates from France, England, Austria, Spain, the Two Sicilies, the Roman States, Greece, Portugal, Russia, Sardinia, Tuscany, and Turkey. This convention soon after met in Paris, and, after long discussion, proposed an international code of quarantine laws, which has since been ratified by the nations represented; and this code is now observed in all the ports of the Mediterranean. Meanwhile, the sanitary reform, which began in England about twenty years ago, under the provisions of the "New Poor Law," attacked no less vigorously the ancient fallacies of quarantine, which had been in vogue in that country since the Great Plague of 1666. The General Board of Health, instituted by an Act of Parliament in 1848, persisted in repeated efforts against the quarantine regulations, for plague, cholera, and yellow fever; protesting that protection from pestilential disease does not consist in quarantine regulations, but in *internal sanitary measures*, that is to say, in measures which have for their object the suppression and prevention of conditions without which the diseases regarded as quarantinable would not exist. The industry, the boldness, and the enthusiasm of Chadwick, of Guy, of Southwood Smith, of Duncan, of Ferrier, of Currie, of Toynbee, of Milroy, and others of like stamp, astounded the United Kingdom, and astonished the world by reports which implied accessory murder of thousands of human beings, by the very authorities whose office it should be to protect them.

The measures proposed by the General Board of Health were the destruction of *fomites*, — all sources of infection in town and country; sanitary improvement of habitations; a full supply of wholesome water and wholesome food, — extending to the *personnel* and *materiel* of commerce. — and, finally, if, in spite of these precautions, pestilence manifests itself in any place, abandonment of the locality until the cause of the pestilence is found out and eradicated. These theories, though for a long time silently believed in by many physicians of eminence, were now for the first time openly proclaimed, and pressed upon the authorities as the only safeguards against the recurrence of appalling epidemics. And when the first International Sanitary Convention met in Paris, in 1850, the delegates from France had already a well-matured programme as a basis of discussion; — the chief feature of the Convention was the abrogation of useless quarantine restrictions, and the inculcation of municipal hygiene in their stead.

However lamentable the devastations of cholera, since its exodus from India, in 1817, it is to our better acquaintance with the habits of this disease that the commercial world is indebted for the progress already made, in the removal of pernicious influence to health, and restrictions burdensome to commerce and navigation. Quarantine reform has been a prominent feature in the sanitary improvement of Europe for nearly thirty years, and it is with chagrin that your Committee on External Hygiene, after diligent investigation, finds that the quarantine regulations of the United States are nearly identical with the most odious restrictions of Europe thirty years ago. They are, in effect, the same laws as those imposed by England, in colonial times, for the protection of America from "plague or other

malignant distempers," and in several of the States it yet remains an indictable offence, with a large penalty, for any person to come into the State from any place infected with contagious disease. The quarantine laws still presume that certain diseases are communicable from the sick to the well, under all circumstances, and that such diseases are capable of being transmitted to new and distant localities, independent of all conditions. They also presume that the germs of all diseases regarded by quarantine officials as contagious or infectious, may lie dormant in the systems of persons who are apparently well, but who may afterwards sicken, and then become the radiating centres of infection. Based upon these conclusions, the *time* and *duration* of Quarantine pretend to depend upon the real or suspected presence of the apprehended disease, in the *personnel* of any vessel during the voyage and at the time of arrival, the kind of cargo, and whether there has been any communication with other vessels, persons, or things, during the voyage. These requirements, however, are of short duration, and usually limited to the warm season of the year. This *résumé* is a fair representation of the Quarantine regulations of the United States, while there are no exceptions to the incongruities herein stated:

It has been justly remarked by McCulloch, in his Commercial Dictionary, that "the complaints of quarantine grievances and oppressions are almost wholly occasioned by want of proper facilities for its performance." But, while we may properly admit the truth of this assertion, as applicable especially to the view which commercial men must naturally take of this subject, we think it must appear to scientific observers that the defective facilities to which McCulloch has referred are mainly owing to the prevailing indefiniteness of opinions and official practices relating to quarantine and to febrile infections. As medical men, therefore, your Committee frankly acknowledge that the medical profession, and quarantine officers themselves, are partly responsible for the defects of our external sanitary defences.

Before enumerating the points which we believe to be essential to the provision and perfection of the external sanitary system of maritime cities and large commercial towns, your Committee would briefly note the special defects and wants that are acknowledged to exist in all, or at least most, of the ports in the civilized world.

I. THE DEFECTS THAT RELATE TO THE SICK AND TO SANITARY PROTECTION.

II. THE DEFICIENCIES THAT RELATE TO COMMERCIAL TRANSACTIONS AND PUBLIC CONVENIENCE.

Under the *first* head are included : 1st. Hospitals,—their location, construction, and fitness ; the facilities for the reception, distribution, and care of the patients. 2d. The construction and management of docks and warehouses for quarantine purposes, with reference to sanitary protection.

Under the *second* head we enumerate : 1st. The needless delay of vessels. 2d. The unnecessary detention of cargoes. 3d. the damage to such cargoes and vessels at Quarantine. 4th. The inconvenience and expense of lighterage. 5th. Loss of time and the use of vessels.

As all these points under the *second* head are connected with the general question of quarantine docks and warehouses,—their location, capacity, and special adaptation,—it is manifestly right, and eminently proper, that the interests and requirements of commerce should be provided for, and made perfectly consistent and harmonious with all the conditions and provisions which are necessary for the protection of the public health. These points include the grounds upon which objections are made respecting deficient facilities as well as burdensome restrictions of quarantine establishments. We propose to make a fair and full statement of the points, without attempting their discussion. But we feel warranted in making the following general statement, involving all these points incidentally, and at the same time affirming what is conceded to be necessary to the arrangement of a quarantine establishment.

I. — THE SICK.

Humanity and public policy alike demand that, wherever there is a quarantine establishment, or wherever and whenever there is any detention of vessels and the sick, in the nature of quarantine, there, in the immediate vicinity of the quarantine anchorage, should be provided ample facilities for the proper care of all such cases of disease as may not, with safety to the public and to the patients, be removed to more suitable places.

The nature and extent of hospital provisions required at any quarantine station must be in no small measure dependent upon the nature and extent of hospitals, and the internal sanitary arrangements of the city or place requiring a quarantine establishment.

For the welfare of the sick it is required that the location of the hospitals should be within a convenient distance of the quarantine station, and that the facilities of access to them from the quarantine anchorage be such as to secure the greatest safety to the sick, and the least danger to the public; and lastly, such location, distribution, and special management of the sick, as shall prevent the general contamination of the hospital in which they may be placed for treatment, and also preclude liability to any dangerous exposure to subsequent infection, or to any other unhealthy influences.

Both the public safety and the welfare of the sick in hospitals, require that effectual provisions be made for the immediate and thorough disinfection of all baggage and personal clothing liable to infection.

II. — QUARANTINE DOCKS AND WAREHOUSES.

If it is admitted that the security of the public health against certain diseases demands the protracted detention or exclusion of vessels or cargoes that are liable to convey and propagate those diseases, then it may justly be claimed that the interests of commerce require special

docks and warehouses for that class of quarantined vessels and cargoes, while experience has fully demonstrated the great importance of such special facilities, no less for public safety than for commercial convenience.

To illustrate the nature and extent of the deficiencies of quarantine establishments, we would refer to the statements on this subject as embodied in the Report on External Hygiene, adopted by this Convention last year.* We would also mention the testimony given on the same subject, particularly as regards deficient provisions for the sick, by the British Quarantine Commissioners, in their First Report.† And in regard to the testimony respecting those special deficiencies that embarrass commerce and incommode the public, it is painfully evident that the judicious author of the Commercial Dictionary speaks truly when he asserts that, were the proper facilities afforded to enable merchants and others to comply with quarantine and all needed external health regulations, "the burdens it (quarantine) imposes would be comparatively light, and we do not know that many more important services could be rendered to the country than by constructing a proper quarantine establishment." Continuing his remarks on this subject, Mr. McCulloch states "there is not on the Thames a lazaretto where a ship from a suspected place may discharge her cargo and refit, so that it is detained, frequently at an enormous expense, during the whole period of quarantine."

This statement, which applies to ports that less than almost any other large maritime cities require such special external sanitary provisions, has been strongly corroborated by the testimony of boards of trade and chambers of commerce in the principal ports of both America and Europe.

As respects medical and official testimony, generally, we find none more decided than that adopted by this Convention at its last session, in answer to the question, "What reforms are required to make quarantines more efficient and less burdensome?" In that report it is stated that "we must be prepared to denounce, as worse than useless, every system of quarantine which, either from incorrectness of the principles upon which it is founded, or from the careless and inefficient manner in which it is executed, as inadequate to guard the community against the introduction of disease from abroad."

The Quarantine Commissioners of Great Britain, in their first report to the General Board of Health, in 1848, concisely sum up the deficiencies and objections of British quarantines, by stating that "the Quarantine establishments of this and every other country, of which we have information, are *wholly insufficient*, even on the assumption on which they have hitherto been maintained, to prevent the introduction and spread of diseases.

"That these establishments are of a character calculated to inflict on passengers extreme and unnecessary inconvenience, and to sub-

* See Report of Convention, 1859, pp. 321, 322, *et seq.*

† See First Report of the Quarantine Commissioners to the General Board of Health of Great Britain, pp. 73-76.

ject such of them as may be sick to increased suffering and danger, while they maintain false securities in relation to the means of preventing the spread of disease."

(By vote of the Convention, it was resolved "that the Report of the Committee upon the Utility of Wet Docks in Connection with Quarantines be referred to the Committee on External Hygiene, with powers.")

"The Committee to whom, at the Third National Quarantine and Sanitary Convention, the Resolution, that a Committee be appointed to inquire into the propriety and usefulness of enclosed wet docks on the Atlantic coast and Gulf of Mexico, together with the requisite Lazaretto for the protection of vessels and merchandise, and the care of the sick subject to Quarantine, the same to be placed under the charge and jurisdiction of the United States," was referred, in presenting their Report, beg leave to premise that —

WHEREAS, The statements which will appear in the sequel have been in a great measure derived from personal observation, it will be necessary to allude very frequently to the Quarantine at New York, as it is not improbable that many of the defects in that establishment have existed in others of a similar kind, and should no appropriate measures be adopted to obviate them, may appear again.

Since the organization of Quarantines, we will venture to say that in no part of the globe, in an equal space of time, have so many sick persons been admitted into a Quarantine Hospital, or Lazaretto, as there have been into the Marine Hospital at New York.

According to the report of Dr. Bissell, an ex-physician-in-chief of the Marine Hospital, to the Legislature of New York, for the year 1857, there were admitted into said Hospital, from the year 1798 to 1857, inclusively, a period of sixty years, 72,595 patients, of which number 10,493, a seventh part, died. During the period embraced by the years 1848 and 1853, at which time the Reporter was one of the physicians of this hospital, 35,690 of the above aggregate were admitted, — nearly one half of the whole number in one tenth part of the time. Hence he has had an unusual opportunity of witnessing much of the inconvenience and suffering, as well as many of the defects of a Quarantine establishment, some of which will be presented in the sequel.

In order fully to appreciate the wants of a Quarantine establishment, it is necessary to have been a spectator of some of its woes. In reading the history of Quarantines as they have existed in various parts of the world, as well as legislative and other reports and communications relating thereunto, the paramount and almost exclusive subjects of inquiry have been, How shall we protect our citizens against the invasion of pestilential disease? How can we lighten the burdens which Quarantines impose upon commerce? The speeding of the weary voyager and the care of the sick being regarded as of minor importance, too often is the poor squalid immigrant, as he is frequently called, shunned, loathed, and, if sick, even viewed as a

culprit. We are not apt to appreciate their miseries, destitute, homeless as they are ; fleeing from famine and oppression abroad ; long pent up in the hold of an ill-ventilated vessel ; their sickness their misfortune, not their fault.

The following incident, related by the General Board of Health, in their Report to the British Parliament in 1849, presents but a faint idea of the feelings of many who, when almost touching their desired haven, are arrested at Quarantine.

A young unmarried lady, who arrived in a steamer from Hamburg, and was stopped at Quarantine in the Thames, thus writes : —

“ It is all very well to say, ‘ Don’t be afraid of the Cholera,’ but those who have seen what I have in the last few days, will feel differently. On arriving at Gravesend, a custom-house officer came alongside, and told the captain that the ship must be kept at Quarantine, and that if he allowed any of the passengers or crew to land he might be shot. They then took away our letters without coming on board, and said they would send every day for our letters. You can imagine our consternation and alarm ; and then the horrid yellow flag ! and we were told if any one were taken ill or died, we should be detained, I know not how long ! Another ship was near us, also in Quarantine, and with a sailor in it who had died. Soon, we saw this ship moving slowly down the river to the Nore, that the body might be committed to the deep. Although it rained in torrents, we saw all the passengers standing on the deck, as they were afraid to go below for fear of the Cholera. If you could have seen that melancholy sight ! I shall never forget it. Need I endeavor to paint to you our feelings, not knowing how soon we might be in the same sad predicament. How we counted the hours, and how we rejoiced when the welcome news reached us that we might land once more in England ! ”

If such be the feelings of a passenger while in health, how sad must be the condition of the friendless, destitute stranger when struck down by a formidable malady ? Having left his home with most sanguine hopes of reaching a happy land, where he expects to enjoy that liberty and the facility for acquiring property which are less liberally granted in his native country ; just as he is on the point of reaching his destined haven, he is seized with a contagious disease, the Quarantine arrests his further progress, and his fond hopes are well-nigh blasted ! Does not such a forlorn stranger demand our commiseration, solieitude, and our best services ? Health and life are as preeious to him as they are to us, and in his desolate, helpless state, far from the solace and sympathy of near and dear friends, surrounded by strange faces, his heart sinks, and he requires our kindest and best efforts to rouse his drooping spirits and cheer him up to health. But what is the first step towards the alleviation of his sufferings ? The ship has dropped anchor at Quarantine. The Health Officer is on board. The vessel may be a mile or more from the landing-place. Are there any sick passengers on board ? If so, a signal from one of the boatmen communicates the intelligence to the shore, and immediately one or more boats put off to the ship to bring the sick to land. Now it is the method of landing the sick, which was generally adopted while the writer was stationed at Quarantine, together with the examination of the philanthropic Dr. Howard’s plate of the Lazaretto San Leopoldo

at Leghorn, that suggested to his mind the great benefits which would accrue were WET DOCKS constructed, if only for the purpose of alleviating the sufferings which attended the method of landing the sick at the S. I. Quarantine. According to the plan of the Lazaretto San Leopoldo, there is a dock almost entirely inclosed, but without any lock, into which vessels detained at Quarantine enter, and are safely moored. The vessel in the first place proceeds to the remote extremity of the dock, where the sick and other passengers are landed directly from the vessel, from which they are conducted or conveyed, and we presume as gently as possible, by an ambulance, sedan, or rail-car, when too ill or feeble to walk, to their appropriate ward or tenement. The passengers being landed, the vessel is hauled alongside the wharf, on which piazzas or warehouses are erected for the reception of cargo, and its expurgation.

It very often happens,—indeed, it is most frequently the case,—that emigrant packet-ships arrive in our port during the prevalence of easterly winds, and in stormy weather. Masters of vessels are generally impatient of delay, and anxious to get rid of their sick, that they may proceed to the pier in the city as quickly as possible. While, then, the Health Officer is on board inspecting the passengers, or soon after he leaves the vessel, the sick are brought up from between decks, lifted over the side, and carried down a vibrating ladder some twenty feet long, into the boat below. (We judge the distance to be at least twenty feet, many of these ships being from twelve to fifteen hundred tons' burden, and rising very high above the surface of the water.) The sick are then rowed to land, sometimes thinly clad, oftentimes through rain, or sleet, or snow, at the risk of extinguishing the lingering spark of life, which by greater care might have been fostered and revived. Frequently are they landed wet to the skin and chilled to the bone, and even in a hopeless moribund condition.

Dr. F. Campbell Stewart, an ex-physician of the Marine Hospital, N. Y., in his Report to the Legislature of New York, March 25, 1860, says: "The condition of the sick sent on shore from on board of ships, is sometimes deplorable. They often die in a few hours after admission, and occasionally in the boats in which they are landed, or as they leave the vessel."

Besides, the sick are frequently landed in a hurry, and consequently more or less roughly. We have known as many as one hundred and fifteen sick persons, in various stages of disease, landed in the space of twelve or fourteen hours, and as many as two hundred and fifty-nine patients, most of whom had Ship Fever, brought from on board of one vessel. (The latter were from the *Penelope* in 1801, when a great many cases of this disease were admitted from several vessels into Marine Hospital.)

The packet-ship *Great Western*, from Liverpool, of 1,443 tons' burden, anchored at Quarantine on the 14th of January, 1852. It was very stormy weather. Her complement of passengers was 791, sixty of whom were brought on shore with Ship Fever, and fifty-five doubtful cases, in whom it was apprehended this disease would soon be developed. Dr. Doane, the Health Officer, labored hard all day in

assisting the sick on shore, and without sufficient nourishment, until ten o'clock at night. Wet and weary he went home. On the next day he was taken ill, and died from Petechial Typhus on the 27th of January. So sure as effect follows adequate cause, doubtless had a plan similar to that of landing sick passengers at the San Lorenzo Hospital been established, the life of this humane, learned, faithful, and indefatigable physician would not have been sacrificed on this occasion.

We shall recur to the sick under the second part of the Resolution.

In the construction and equipment of a Quarantine establishment, in addition to precautionary measures against the introduction of contagious diseases of a malignant character by the seaboard, not only every needless impediment to commerce should be avoided so far as is compatible with the prime object in view, but every facility should be afforded for the speedy release of vessels from quarantinal restraint, as well as for the protection of property detained at Quarantine.

"There is not on the Thames," says Mr. McCullough in his Dictionary on Commerce, "a Lazaretto where a ship from a suspected place may discharge cargo and refit, so that it is detained frequently at an enormous expense during the whole period of Quarantine, while, if she had perishable goods on board, they may be materially injured. The complaints of Quarantine grievances and oppressions are almost wholly occasioned by the want of proper facilities for its performance. Were these afforded, the burdens it imposes would be comparatively light, and we do not know that any more important service could be rendered the country than by constructing a proper Quarantine establishment."

Again, in examining again the plan of the Lazaretto San Leopoldo, as represented by Dr. John Howard, in his "*Account of the Principal Lazarettos in Europe*," 2d ed., 4°. London, 1791, we were forcibly impressed with the superior advantages which would be derived from suitable Wet Docks, in which vessels might be securely moored during their Quarantine ordeal. Such docks should be water-tight, closed by locks, which would readily admit the ingress and egress of vessels in compliance with the orders of the Health Officer.

Judging from what we have observed in New York Bay, the lower bay especially, of the uneasy manner in which vessels ride at anchor, rolling and tossed to and fro by the turbulent billows, even under a moderate breeze, and the danger to which such vessels are exposed during tempestuous weather, the difficulty and risk of transshipping their cargoes into lighters alongside, we have thought that such docks would afford adequate protection to vessels against the violence of storms; secure their merchandise from plunder and accidental loss; expedite the introduction of goods into the market; and even allow foul vessels to receive their return cargoes and clear out to sea should the difficulty of expurgating them deter their approach to the city. The vessel, having entered the dock, might proceed immediately to the place appointed for landing the sick and other detained passengers, which being done, she might be hauled alongside the wharf, on which piazzas and warehouses have been erected for the reception and

purification of the cargo. When merely ventilation, drying, and cleansing the interior of packages are deemed necessary, inasmuch as this would require only a brief detention, piazzas should be preferred ; but when the cargo requires a protracted detention, warehouses, on account of the security they afford, would be most suitable. Ballast as well as cargo, being discharged, the vessel should be cast off and anchored in the centre of the basin, there to be expurgated, after which she might be permitted to proceed to the city, or place of destination, or to an export dock adjacent, for the reception of goods brought down in lighters, obtain her Custom-House clearance, and put off to sea with her return cargo.

If everything were removed from the vessel, it would occupy but a few days to purify and cleanse her, unless she should be *very foul*, in which case she should be floated into a *dry dock* in proximity with the wet dock, for more thorough expurgation. We venture to suggest such a structure as a dry dock for raising vessels completely out of the water, in order that they may be thoroughly overhauled and everything pernicious ejected ; but blacks only, or those who have had the Yellow Fever, should be employed in cleansing them.

On this topic we beg leave to digress, as we consider a dry dock to be a very important appendage to a Quarantine establishment.

The great mortality which has been produced by Yellow Fever on board of foul ships, whether this disease has originated spontaneously or from some external source, has given rise to numerous inventions for their expurgation. Hundreds of persons, especially on board of men-of-war, have been attacked with Yellow Fever, attended with great mortality, in consequence of inhaling the morbid exhalations from a ship's hold ; hence, no pecuniary consideration should be permitted to operate against the employment of any plausible means, calculated to prevent their elimination, to expel or destroy them. Fumigants, disinfectants, and deodorants have disappointed the expectations of those who have confided in them. The pumping out of bilge-water and drenching the hold with salt water have often proved inefficient ; and even freezing mixtures only lock up the miasm for the time being, without altering its nature, and afterwards leave the vessel in an unhealthy state of humidity, with increase of filthiness. They are evanescent. The most offensive smells are by no means the most pernicious. They warn us of danger, and compel us to resort to ventilation for their expulsion. The most deadly miasms are imperceptible by the senses, and undetectable by chemical tests, (unless it be the *air test* of Dr. Angus Smith, spoken of by Miss Florence Nightingale, which we have not seen,) and are produced by the action of moisture gradually, but persistingly decomposing the planks and timber of the vessel. We can get rid of bilge-water by pumping it out, and its smell by flooding the vessel ; but the moisture remains, though pumped ever so dry, causing mustiness and mouldiness, and the development from the fabric of the vessel of a pernicious febrile miasm, similar to that evolved from external vegetable decomposition, but rendered more virulent by concentration in the close, ill-ventilated hold of the vessel. Cleanse and ventilate as much as you may ;

while humidity exists, the morbid exhalations will persist. Dryness, therefore, is essential to thorough expurgation. While the hold of the vessel is sunk below the surface of the water, this can scarcely be accomplished; but elevated on a dry dock, it would be, completely and expeditiously.

To show the importance of dryness in overcoming pernicious exhalations, the ship *Regalia*, which sailed from the coast of Africa in 1815, with black recruits, affords evidence. This vessel, while on the coast, took on board a large quantity of green wood; her ballast was what is called *shingle ballast*, composed of small stones, with a considerable mixture of mud and other impurities; besides which, the ship was leaky, and the water-casks leaked. After she got to sea the Yellow Fever broke out, and all hands on board except the blacks were attacked therewith. After the ship arrived at Barbadoes she was cleansed and ventilated, notwithstanding which the disease continued until the hold had been exposed for a time to the concentrated heat of many stoves, after which it ceased, the moisture having evaporated.

But on this topic we cannot dwell, and must therefore beg leave to refer to Dr. R. La Roche's elaborate and valuable Treatise on Yellow Fever, vol. ii. chap. xxii., where the causes of Yellow Fever on ship-board, and the different methods adopted for expurgation, are fully detailed.

In our opinion, the principal, if not the sole means upon which we can rely for the thorough expurgation of a foul ship, are ventilation, cleansing, and the drying process, all of which can be most effectually performed while the vessel is exposed on a dry dock to the heat of the sun, at the same time that she is undergoing the necessary repairs, after which the timber, planks, and other wood-work of the vessel *should be coated internally with a composition impervious to water, and combustible*.

With regard to vessels of war with ordnance on board, the difficulty and expense of raising them upon a dry dock would be too great for a Quarantine establishment. Such vessels, after landing their sick, should steer for the frigid zone and clean up there.

To resume: The protection which Wet Docks afford to vessels in Quarantine is not limited to the dangers which may accrue from stormy weather while riding at anchor in an open bay or roadstead. Such docks being, as it were, insulated, are more easily guarded against depredations of every kind, whether the cargo still remains in bulk, or is in process of unloading. "Previously to the construction of Wet Docks on the Thames, the property annually pillaged from vessels was estimated to amount to £500,000 sterling," though Mr. McCullough, from whom we quote, thinks this estimate to be somewhat exaggerated. Dr. Bissell, ex-physician-in-chief of Marine Hospital, in his Report for 1857, to the New York Legislature, states: "For years past, and until the organization of the metropolitan police, there was no protection to the property of importers and ship-owners arriving in the city of New York. Burglary and larceny were perpetrated by thieves and robbers at pleasure, and with almost perfect impunity; and if the

losses of our commercial men in this respect could be named, the amount would be startling. These depredations were committed by emigrant runners and boatmen at large, who are constantly on the alert to prey upon vessels, cargoes, and passengers, by day as well as by night, while these vessels are lying at anchor, requiring a large and vigilant police force to prevent such depredations."

That the construction of Wet Docks has done much to attract and facilitate commerce, is an historical fact. "The first Wet Dock in Great Britain was constructed in Liverpool about the year 1708, at which time Liverpool was but an inconsiderable town. This, however, was the commencement of her commercial importance; and the accommodation afforded by her Wet Docks is one of the circumstances that has most strongly conduced to her extraordinary increase in population, commerce, and wealth." The Liverpool Docks now enclose an area of ninety acres of water.

The West India Docks were the first constructed on the Thames. They were commenced in February, 1800, and partially opened in 1802. The Export Dock is eight hundred and seventy yards long by one hundred and thirty-five wide. Its area about twenty-five acres. The Import Dock is of equal length, and one hundred and sixty-six yards wide. The South Dock, which is appropriated to both import and export vessels, is one thousand one hundred and eighty-three yards long; the locks at each end are forty-five feet wide, large enough to admit of vessels of one thousand two hundred tons. At the highest tides the depth of water in the docks is twenty-four feet, and the whole will contain with ease six hundred vessels of from two hundred and fifty to five hundred tons. There are other docks pertaining to this department, which, together with the above and the warehouses, comprise an area of two hundred and ninety-five acres.

This spacious and magnificent structure was formed by subscription, and vested in the West India Dock Company, their capital being £1,380,000 sterling, and has proved a profitable as well as beneficial investment. In addition, there are on the Thames, the East India, London, and St. Catharine's Docks. For further information on this subject, we refer to McCullough's Commercial Dictionary. But these docks are on a much more extensive scale than is needed for quarantine purposes. Being intended chiefly for yellow-fever vessels, a dock capable of accommodating thirty or forty vessels at a time would be sufficiently capacious, for, after discharging cargo, they would haul off to the middle of the basin for expurgation.

That docks of such moderate dimensions would answer every needful purpose, we judge from the number of vessels which arrive from ports where yellow fever prevails during the quarantine season. Dr. Whiting, ex-Health Officer, in his testimony before a Committee of the Legislature, stated that the number of sickly vessels, with yellow fever on board, from the 13th of March, 1848, until January 1, 1849, a period of nine and a half months, was 44. According to the Report of Dr. R. H. Thompson, late Health Officer, 47 infected vessels from twelve ports, from the 1st of April to the 1st of August, 1856, sent into Marine Hospital, fifty-eight cases of yellow fever; and from the 16th

of April to the 1st of August, 1858, forty-three vessels from nine ports, sent to the Hospital ninety-eight cases of the same disease; and Dr. Elisha Harris, an ex-physician-in-chief of the Marine Hospital, reports seventy-nine infected vessels from April 10 until October 4, 1856, of which number forty-one arrived in July, twenty in August, and ten in September. Now, when we take into consideration that all such vessels are not detained at quarantine at the same time, and that as many sickly vessels arrive in New York as at any other port of the United States, the dimensions of the dock need not be larger than above mentioned.

The advantages which Wet Docks possess over a breakwater consist, not merely in accommodation and economy, but also in affording greater protection to the shipping. Major Delafield, of the U. S. Engineers, testified before a Committee of the N. Y. Legislature, "that a breakwater has no tendency to protect a vessel from the force of the winds; their fury and power in driving vessels from their moorings, is the same with as without a breakwater. It is only in resisting the force of the waves and heavy seas that such a structure is of any service."

Inasmuch as a bill has been introduced into the Senate of the United States, by the Hon. Charles Sumner, to abolish all appropriations to Marine Hospitals, and the tax on Seamen,—which tax, so far as it goes, has hitherto been applied towards defraying the expenses attendant upon the care of sick sailors,—it might be deemed of little utility to discuss the second part of the Resolution under consideration,—which relates to placing Quarantine Hospitals and their appurtenances under the jurisdiction and charge of the General Government,—until the fate of this bill is decided. Nevertheless, as there are, in our opinion, cogent reasons why the United States should possess the control and charge, as well as the appointments of a Quarantine establishment, we will notice some of the grounds on which this latter part of the Resolution was based.

In the first place, we consider that a quarantine, from its close connection with the U. S. Revenue Department, and the important bearing which it has upon commerce, (which Congress alone can regulate,) and upon travellers soon to be dispersed throughout different and distant States of the Union, is a national, rather than a State concern, and we cannot conceive that a uniform system of quarantine can be established throughout the Union unless it be organized, almost exclusively, as a national institution.

The following extract from the able Report of Dr. Wm. T. Wragg, presented to the Third National Quarantine and Sanitary Convention, respecting the feasibility of a Uniform System of Quarantine, coincides in a measure with this view of the subject.

We find, says Dr. Wragg, in Brightley's Digest, p. 810, under the head of Quarantine and Health Laws, an act of Congress, passed February 25, 1779, the third section of which reads thus:—

There shall be purchased or erected, under the order of the President of the United States, suitable warehouses, wharves, and inclosures, where goods and merchandise may be unladen and deposited from any vessels sub-

ject to quarantial or other restraint, pursuant to the Health Laws of any State as aforesaid, at any convenient place or places therein as the safety of the public revenue and the observance of such laws require.

We will now refer to an almost unanimous decision of the last Convention,—that *fomites*, in the form of foul merchandise, clothing, and baggage of various kinds, is a more public medium for the conveyance of yellow fever than the body of the sick afflicted therewith. That the sick, when divested of *fomites*, may be permitted to enter a city with impunity, whilst vessels, merchandise, baggage, and clothing, in certain conditions, brought from the same place, with or appertaining to the sick, must be detained until thoroughly expurgated. Such seems to be the interpretation of the resolution alluded to, and consequently ships, merchandise, clothing, bedding, and other kinds of baggage are, so far as yellow fever is concerned, the principal things and materials for quarantial restrictions.

Forasmuch, then, as it appears from the preceding extract from Dr. Wragg's Report, that foreign merchandise, while detained at quarantine, is in charge of the General Government, or under its protection, and as it is customary for Revenue Officers to inspect cargoes, examine the trunks, boxes, and baggage of immigrants, with the view of detecting contraband articles, or smuggled goods, these officers must unavoidably, in the discharge of their duty, come in contact with *fomites*, and consequently would incur but little additional risk in supervising the purification of articles deemed foul, or capable of inducing and propagating disease, the manipulations being performed either by negroes, or by persons who have had the yellow fever, under their direction and control. And furthermore, as *fomites* enclosed in baggage, and *possibly* in merchandise, may be conveyed to parts remote from the port of entry, and even to distant States, the entire Union may be considered as interested in the faithful discharge of quarantine duties, no matter where the quarantine is located; hence one individual State should not be burdened with the expense of sustaining a precautionary system which is calculated to benefit the whole. It is evidently a national concern, or should be. We consider that goods, while in the public stores at quarantine, are under the supervision and protection of the General Government.

Respectfully submitted,

JOHN W. STERLING, M. D.,	} Committee."
ALEX. H. STEVENS, M. D.,	
J. McNULTY, M. D.,	

With such testimony, and with the various quarantine codes of civilized nations before your committee, and from the results of their own personal observations, strongly corroborating such statements, they feel that the task imposed upon them by the resolutions of the last Convention possesses such a degree of practical importance, and involves such a variety of questions and interests, that "the specific

recommendations of principles and measures of quarantine," called for in this Report, need to be very carefully considered and clearly stated.

Having been directed to report to the fourth meeting of this Convention "specific recommendations of principles and measures of quarantine, as severally applicable to yellow fever, cholera, typhus fever, and smallpox, having reference, also, to the variations which different localities require," this Committee will now endeavor to comply with the direction, in accordance with the design of the resolutions.

SPECIFIC MEASURES OF QUARANTINE,

SEVERALLY APPLICABLE TO YELLOW FEVER, CHOLERA, TYPHUS,
AND SMALLPOX, WITH THE VARIATIONS WHICH
DIFFERENT LOCALITIES REQUIRE.

As the specific measures of an efficient system of external sanitary police, to guard against the several diseases here enumerated, will, in particular cases, relate to persons, clothing, cargoes, or vessels, the special provisions required may be included under the following heads:

I.—QUARANTINE HOSPITALS, AND THE PROPER CARE OF THE SICK.

II.—QUARANTINE WAREHOUSES AND DOCKS, AND THE PROPER DISPOSAL AND CARE OF INFECTED THINGS.

FIRST.—*Quarantine Hospitals, and the Care of the Sick.*—It must be admitted that the welfare of the sick and the interests of the public health require that the sick with pestilent diseases should receive medical attendance and hospital care immediately upon their arrival at quarantine, or at the first place of detention of vessels by quarantine authority. Ample provisions, therefore, should be made for the immediate and proper care of the sick at every quarantine station.

The extent and variety of such hospital provisions, required for particular quarantine stations, will manifestly depend upon the number of patients liable to be received, and the variety of infectious maladies to be treated.

Distribution of the Sick.—It is plain that no two or more of the pestilent maladies enumerated in this Report should ever be introduced together into the same ward, and, if possible, they ought to be treated in separate buildings.

While facts do not warrant the conclusion that any disease is neces-

sarily and inevitably infectious or contagious under all circumstances, it is so true of smallpox and of typhus that they do certainly spread by personal contact, limited infection of apartments, and also by personal *fomites*,—it is manifestly the duty of the sanitary authority to insure the entire seclusion of each of those maladies. As regards both yellow fever and cholera, it will be generally admitted that it is due to public quietude, even if it is not known to be absolutely necessary for public safety, that persons arriving at quarantine with either of those maladies should be provided for in secluded hospitals. But it is safe to recommend that the local sanitary authority of any city or port should decide whether special hospitals be established exclusively for the sick arriving at quarantine, or whether the special hospitals, established for the seclusion of the same diseases occurring in such city or port, be also used for the same classes of patients arriving from abroad. One hospital establishment for typhus fever, and one small-pox lazaretto, may, in certain places, be so located and furnished as to answer well for the sick from abroad as well as at home, and also promote the efficiency and economy of both the external and internal sanitary police.

It is probable that the proper distribution of the sick may sometimes be best secured by such a combination of the hospital arrangements of the external and the internal sanitary systems of particular places, but proper *distribution* and the safe *seclusion* of the sick with pestilent diseases should be secured in every quarantine establishment.

Location of Quarantine Hospitals.—First, they should be so convenient of access and so situated with reference to the quarantine anchorage and the quarantine warehouses and docks, as to offer the best possible facilities for the immediate medical care of the sick arriving, and of the laborers or other persons becoming ill at the quarantine station.

Character and Construction of Quarantine Hospitals.—First, they should be so located as to enjoy a *pure* and *dry* air; and consequently, should be sufficiently remote from the warehouses and infected vessels to be safe from any danger from that quarter, nor should they be landlocked by elevations around them, or too much sheltered from the windward.

Whether erected on the shores, or floating, the number of separate hospitals should be sufficient to give at least one for each of the diseases that are to be provided for at any one period; and the hospitals should be so arranged as to secure—

1. Perfect cleanliness.
2. Ample space for patients.
3. Complete and controllable ventilation.
4. The best facilities for the reception and care of the sick.
5. The requisite means for cleansing and disinfecting bedding and clothing.

There can be no better test of the good management of hospitals for pestilent diseases than that the hospital wards be so free from contamination that they do not become infected places. To preserve a typhus-fever or a smallpox ward from infectious contamination, and,

consequently, to secure the welfare of its inmates, it is indispensably necessary that the air-space be much greater than has usually been provided in our hospitals. In the wards for cholera and for yellow fever, the welfare of the sick, if not the safety of attendants, requires a liberal and constant supply of fresh air.

To attain such a degree of sanitary security in quarantine or fever hospitals, it is necessary that ample space be allotted to the sick. Not less than two thousand five hundred cubic feet of air-space should be allotted to each patient, unless the facilities for insuring the constant supply of fresh air from without, by means of arrangements for plenum ventilation, be of an unusual character. But it is not the design of this Report to enter upon any details of hospital construction.

The main objects of reference to this subject have been attained in the foregoing remarks, on the proper distribution and care of the sick at quarantine. But we need to add in this place a few suggestions upon an indispensably important branch of service, connected with the management of hospitals, particularly those pertaining to a quarantine establishment. We refer to *the best means for the cleansing and disinfection of clothing, etc., from hospital wards, or from infected vessels.*

There cannot be a more highly important regulation in any hospital than that which secures the immediate cleansing of every utensil and every article of personal and hospital clothing, as soon as soiled; and in the arrangement of a quarantine establishment, none is more essential than that which provides for the immediate and thorough *disinfection* of all articles of clothing, bedding, etc., both from infected vessels and hospital wards. It is not only desirable, but necessary, that every quarantine establishment should be provided with ample means for effecting such purification and disinfection, as a grand measure of sanitary protection against all personal and common *fomites* of pestilent diseases.

Notwithstanding the general impression regarding the uncertainty of the ordinary chemical disinfectants, so called, it will not be denied that all articles of clothing may, and certainly ought to be, completely disinfected and thoroughly cleansed by some speedy and effectual process, at every quarantine establishment.

By referring to the able report that was adopted by the Convention last year, on disinfectants, it will be seen that for the disinfection of apartments or things contaminated with the infectious cause of pestilent diseases, free ventilation must be the main reliance; and it is truly stated in that report, that "*a disinfectant for the yellow fever is a desideratum.*" Nearly as much may be said of other specific febrile infections. In the present state of our knowledge respecting the essential nature of these infections, and their relations to physiological and atmospheric chemistry, it is not to be expected that positive chemical disinfectants will be successfully applied; but we recommend, however, that, for the disinfection of all *fomites* and apartments contaminated with yellow fever or any other febrile poison, full experiment be made with steam or with dry heat above 200 degrees Fahrenheit, as an effectual mode of disinfection and purification, whenever and to whatever such heat may be safely applied. This recommendation is

based upon obvious principles and varied observations that need not be stated here, particularly as they have been embodied in a special memoir for this Convention, by a member of this Committee. But in this Report, suggestions respecting extreme temperatures, forced ventilation, etc., are made solely with reference to the practical applications of reliable means for such processes of disinfection as may readily and effectually be put in requisition in hospitals, contaminated apartments, quarantine warehouses, and infected vessels.

And for this purpose the Committee recommend : *That in connection with every quarantine establishment, at the warehouses as well as at the hospitals, properly constructed steam-generators and steam chambers or vats, be provided for the disinfection of all personal, hospital, and ship's clothing and bedding, together with such other infected goods or things as may properly be subjected to high steam heat.*

It is also recommended that experiment be made to test the utility of steam as a disinfectant in vessels contaminated with yellow fever or any other febrile poison that is not readily destroyed or dissipated by other agencies.

It is also recommended that at every quarantine establishment it shall be an established rule that all articles of clothing, bedding, or dunnage on board of vessels suspected of being contaminated with yellow fever or cholera, and liable to propagate the same, shall be subjected to high steam or dry heat for the purpose of disinfection ; and that this duty be attended to as soon as convenient after the arrival of the infected vessel or things ; and especially, that, without such process having been performed, no article or thing whatsoever shall be thrown overboard or otherwise disposed of, except by rapid incineration or by being securely sunken under the water.

It is also recommended that in every quarantine hospital it be an established rule, that all articles of personal clothing, bedding, and every kind of absorbent material pertaining to the furniture and utensils of the wards, or the care of the sick or the dead, be removed to the steam-vats as soon as they become soiled or contaminated ; and it is further recommended that, in addition to means for ventilation, provision be made for the application of heat, by steam or otherwise, in the wards where pestilential infection is liable to be perpetuated.

In the case of *fomites* of smallpox and of typhus fever, the same rule is recommended to all sanitary authorities, connected either with the internal or the external police of cities.

The foregoing suggestions and recommendations embrace the most important measures, which are of essential importance in the executive management of quarantine hospitals ; and all specific regulations that the Committee would recommend on this subject may be concisely summed up under the heads of —

1. *Ample air-space and effectual ventilation.*
2. Proper supply and control of sunlight in the wards.
3. Such construction and such material for hospital wards as not to favor the retention and perpetuation of febrile poisons and pestilent emanations.
4. Means for *immediate* and safe disinfection of all clothing, bedding, etc.

5. Facilities for the reception of the sick, and for the removal and burial of the dead without the observation of the patients in the wards.
6. A resident medical officer, who shall have control of the internal management and police of the hospitals.

LOCATION, CONSTRUCTION, AND THE EXECUTIVE MANAGEMENT OF QUARANTINE DOCKS AND WAREHOUSES.

In a former part of this Report reference has already been made to the universal defect of all modern quarantine establishments, viz : the absence of suitable docks and warehouses for infected vessels and cargoes. This is a subject of such vast importance to commerce, and of such vital interest to the public health, that the Committee would deem it their duty to present the full argument in favor of the recommendation they desire clearly to express in the declaration of the proposed code. But, happily for the brevity of this Report, as well as for the complete statement of the various propositions connected with the subject, a special report on wet docks and quarantine warehouses will also be presented to the Convention.* On this subject, therefore, the Committee need only to enunciate the following general statements :

1. Ample and safe warehouse facilities, and convenient and safe dockage for infected vessels and their cargoes are indispensable requisites for every quarantine establishment where yellow fever, cholera, or the plague are liable to be perpetuated by exotic *fomites*.

2. Though not indispensably necessary to enable the sanitary authorities to guard against the introduction of typhus or smallpox, such special quarantine docks and warehouses might often be of great service.

3. At any port where a considerable number of vessels with their cargoes is liable to protracted detention at quarantine, wet docks and capacious warehouses, exclusively devoted to quarantine purposes, are recommended ; and it is further recommended, that, in all cases where a vessel is reasonably suspected of being infected with yellow fever, it shall not, even after discharging cargo, be permitted by the health officer, or the local council, to approach nearer to the city than the quarantine docks, or warehouses, until thoroughly disinfected.

4. For the general security of the public health of all cities in maritime communication, no less than for the convenience and benefit of commerce, it is recommended that a dry dock, or a marine railway, be constructed in connection with the quarantine docks and warehouses, for the purpose of enabling merchants to overhaul and repair their vessels, and to enable the sanitary authorities to make such inspections as they may deem expedient in connection with such repairs.

5. The quarantine docks, warehouses, and anchorage, should be located at a sufficient distance from any populous neighborhood to insure seclusion, and be free from any liability of communicating the infection of any disease to any persons not employed at the quarantine

*See p. 163, *et seq.*

establishment. To this end, it is recommended that the docks, warehouses, and anchorage be located at least two miles from any populous neighborhood, however rural, and, when practicable, at a much greater distance from cities or large towns.

6. The warehouses should be "so constructed as to secure the best natural ventilation, and to that should be added appliances and power to afford to each store-loft and apartment the most complete provisions for artificial ventilation and disinfection." It is further recommended that at every quarantine establishment there should be constructed, in connection with the warehouse or warehouses, an apartment, or chambers, with suitable appliances for special disinfection, by high steam, dry heat, refrigeration, chemical disinfection, and *forced ventilation*; and that facilities be supplied for the speedy and safe delivery and shipment of goods that have been subjected to such disinfecting processes.

7. It is recommended that the *executive* management and control of quarantine warehouses and docks, and the goods and persons therein, be under a competent scientific officer, who shall be approved by the health officer of the port, and the local sanitary council.

As the special regulations which the Committee would recommend respecting the unlading, detention, and *pratique* of cargoes, will be stated in the *declarations* of the code submitted, we will not extend our suggestions on this subject.

It will be observed that this report assumes, without argument or any narration of reasons or opinions, that both yellow fever and cholera are diseases capable of being transmitted and propagated from place to place beyond their indigenous *habitats*.

In the case of yellow fever, having satisfactory evidence that such transmission is effected generally, if not always, by means of inanimate *fomites*, the Committee have no occasion to renew the discussion of questions which were so fully entered upon by the Convention last year. But it will be observed that the suggestions and recommendations contained in this report, so far as they relate to the sick with yellow fever, contemplate such care and seclusion as to answer the demands of those among us who still believe in the personal communicability of that scourge of the tropics, while providing for the simply humane interests of the sick.

In respect to Asiatic cholera, the report coincides with the high authority of the most reliable commissioners and committees that have specially investigated the history and progress of that fearful malady. With the conclusions of Doctors Baly and Gull, as expressed in the able Report of the British Royal College of Physicians, your Committee believe that "human intercourse is certainly only one cause of the propagation of disease," and that "the propagation of the disease by human intercourse does not prove its contagious nature;" all of which may be affirmed with equal truth of the propagation of yellow fever. But "the *possibility* that cholera is occasionally communicated by a virus produced in, and emanating from the sick," is admitted.

As regards the utility of quarantine restrictions against cholera, it may safely be stated in the language of the Royal College of Physi-

cians, that "quarantine has undoubtedly often failed of its object, partly from its being evaded by the crews of infected ships, partly, perhaps, from the ships being placed so near to habitations on shore, that the imperfect air of the ships would be carried to them by atmospheric currents; and, in some cases, probably, because clothes, still containing infectious matter, were conveyed on shore during or subsequent to the period of quarantine."

This report also adopts the conclusion of the able document from which the preceding paragraphs have been quoted, that "it cannot be doubted that ships are more or less fitted to convey the disease, or its cause, from port to port, in proportion to their want of cleanliness, defective ventilation, and overerowed state; and that if these evils, of which the two former are so flagrant in the smaller trading vessels, and the two latter in ships carrying passengers, could be removed, the danger of the importation of cholera would be greatly lessened." The language of this most recent and reliable authority on this subject so fully expresses the views of your Committee, that we beg permission to quote the following, as the best that can be given on this point in our report.

"While, therefore, it is much to be desired on general grounds, that measures should be adopted for inculcating and enforcing the attention to cleanliness and free ventilation, in the whole mercantile marine, the special application of measures of this kind to ships coming from ports where cholera prevails, as far as may be practicable, is imperatively called for. A close inspection of all such vessels should be made on their coming into port, and it would not be unreasonable to require that there should be brought with each ship coming from an infected port an official certificate of its having been inspected, and found cleanly and not over-crowded, and the crew healthy at the time of its sailing."

"On the arrival of ships having persons ill of cholera on board, or having had deaths from that disease during the voyage, more active measures must be adopted; 1, and the best that have been recommended seem to be, the removal of the sick to a hospital ship, moored at a distance from the other shipping in the harbor, or to a special hospital in an isolated and airy situation on shore; 2, permission to the rest of the crew to land after exchanging their dress for fresh clothes provided from the shore; 3, the thorough exposure of articles of dress and baggage to the air and disinfecting agents before they are removed from the ship (or from quarantine warehouses); and, 4, the use of disinfecting agents in every part of it, but especially in the parts occupied by the crew and their baggage."

In the foregoing concise statement is embodied all that need be said on this subject of quarantine for cholera, though there is stronger ground for quarantine restrictions against that disease in America than can exist on the Eastern continent.

As regards typhus fever and smallpox, this report recommends that all specific directions or regulations for the management of both the sick and the vessels in which they arrive be committed to the discretion of the local sanitary authorities; yet the Committee, desiring to

fulfil the commission intrusted to them, feel it incumbent on them to report as follows regarding the quarantine regulations demanded by those diseases :—

It is well known that typhus fever and smallpox are diseases that prevail most frequently in cold weather, and that persons laboring under these maladies, and also infected goods, are not subjected to quarantine. It has been well observed that a ship arriving with typhus fever or smallpox at midwinter is as legitimately a subject for quarantine restrictions as one with yellow fever on board arriving in midsummer. Nor will it be denied that the danger of contagion in smallpox and from infection in ship fever is far more to be dreaded than any danger from *persons* sick with yellow fever at any season. While the *fomites* of yellow fever, existing independent of persons, though active only during hot weather, are much less subject to control than the *fomites* of typhus fever and smallpox.

Should a single doubt linger in the mind of any one on this question, let it be remembered that the foul atmosphere of a ship at sea is oftentimes produced during cold weather or in cold latitudes, by overcrowding, and by the exclusion of pure air, impoverished diet, and want of proper attention to cleanliness. Such a condition of things has repeatedly happened, and disease has been introduced into our ports by the arrival of emigrant, and other vessels, in midwinter, after a protracted voyage, or where the ship's company consisted of a squalid, filthy, half-fed, and intemperate collection of passengers, at the same time the vessel laboring under a leaky hold, and having a perishable cargo on board. It is, indeed, well established that febrile, infectious, and pestilential diseases are liable to occur wherever and whenever there is overcrowding of human beings in close or filthy places, especially on shipboard when deficiency of space, paucity of fresh air, the presence of extreme humidity, bilge-water gases, and idiomiasmata are peculiarly active causes of fatal fevers and diffusible infection.

The frequent and destructive outbreaks of pestilent fevers in naval transports, and the peculiar experience of quarantines at all our Atlantic ports where foreign immigration has furnished its painful illustrations of the evils of overcrowding in passenger ships, sufficiently enforce the importance of practical attention to the condition of this class of vessels on their arrival in port, while their records pointedly illustrate the necessity for improvement in naval or marine hygiene. Indeed, nothing more strikingly illustrates the importance of this subject than the frequent instances of the propagation of pestilent fevers from ships' holds after arrival and unlading at the wharves of our cities.

The propagation of all such diseases as are generated or may be transported by ships, is subject to such varied contingencies as to render it manifestly desirable that in every port the local sanitary authority or board of health should exercise such surveillance and control over the imported sources of disease as may be found necessary for the protection of the public health. But it is evident that in all places where the same diseases are indigenous, naturalized, or locally preva-

lent, as in the case of typhus, scarlatina, and smallpox,—in nearly all the cities of Christendom,—the special restrictions of quarantine for those maladies should not exceed, but fully harmonize with, the scope and spirit of the restrictions and regulations of the internal sanitary regulations, in each port or city respectively. As stated under the head of *Distribution of the Sick*, considerations of efficiency and economy may often render it desirable to combine the appliances of the internal with those of the external sanitary police.

In regard to smallpox, there can justly be no relaxation of such restrictions as are necessary to insure seclusion of its victims and the personal *fomites* of that malady, until the great prophylactic *vaccination* has been universally applied. But fortunately the ordinary cargoes of merchandise are very rarely liable to become in any degree infected with the virus of smallpox, typhus, or cholera. The readiness with which a vessel contaminated with these maladies may be disinfected, should relieve commerce from onerous burdens which these diseases inflict. The actual detention or cost being only for the purpose of securing complete ventilation and cleansing. Yet, for even these purposes, we regard the preparation of special docks and warehouses desirable; and for the security of most of the Atlantic and Mediterranean ports, such special facilities should be regarded as absolutely necessary in carrying out any plan for the effectual relief of the burdens inflicted by yellow fever and the plague. Whatever may be learned in the future respecting the propagation of yellow fever, cholera, and the plague, it is highly important to maintain all those sanitary restrictions which are requisite to insure the exclusion of those maladies from healthy ports.

CODE OF MARINE HYGIENE.

DECLARATIONS.

1. Every organized government has the right of protecting itself against the introduction of infectious diseases, and of putting any country, place, or thing in quarantine which would introduce infectious diseases; provided, however, that no sanitary measure shall go so far as to exclude or drive from port a vessel, whatever may be her condition.

2. The only diseases at present known, against the introduction of which general quarantine regulations should be enforced, are—plague, yellow fever, cholera, smallpox, and typhus fever. As regards plague, the European Congress at Paris had the right to settle the question for the nations there represented; and, inasmuch as they and

the other nations of the eastern continent have reason to subject the plague to quarantine restrictions, the States of America yield implicit obedience to that convention.

3. All quarantine regulations, of any place whatever, should bear with equal force against the toleration or propagation of disease as against its introduction; and authority to prevent the introduction of disease in any place should be equally applicable against its exportation.

4. All quarantinable diseases are chiefly introduced and propagated by the *materiel* of commerce; and it is therefore against it that quarantine restrictions should be instituted, and *not* against the *personnel*; excepting, however, persons with no evidence of vaccination, and known to have been exposed to smallpox; such persons shall be vaccinated as soon as possible, and detained until the vaccine shall have taken effect; otherwise, they may be detained fourteen days from the time of the known exposure.

5. The application of quarantine regulations shall be regulated by the official declaration of the constituted sanitary authority at the port of departure where the malady exists. The cessation of these measures shall be determined by a like declaration that the malady has ceased,—after, however, the expiration of a fixed delay of thirty days for the plague, fifteen days for yellow fever, and ten days for cholera.

6. It is obligatory on all vessels to have a *BILL OF HEALTH*; this shall consist of two kinds only, a *clean bill* and a *gross bill*, the first for the attested absence of disease, and the second for the attested presence of disease. The bill shall state the hygienic state of the vessel; and a vessel in a bad condition, even with a clean bill of health, shall be regarded as a vessel having a gross bill, and shall be submitted to the same regime.

7. The plague, yellow fever, and cholera being the only maladies that entail general measures, and place in quarantine those places whence they proceed, the restrictions enforced against these diseases shall not be applied to any other suspected or diseased vessel.

8. The power of applying the general principles of this code, and of acceding to its provisions, are expressly reserved to those nations and governments who consent to accept the obligations it imposes; and all the administrative measures proceeding from it shall be determined by international sanitary regulations, or by a convention of the representatives of the governments which have adopted it.

9. This code shall continue in force and vigor among the governments adopting it for five years, and it shall be the duty of any party wishing to withdraw from its observance, at the end of that time, to officially declare *his* intention six months before the term expires; if there be no such notice, the code shall be regarded as in force one year longer, and thus it shall continue year after year, with all the governments accepting it, until after due notice,—six months before withdrawal.

PROVISIONS IN DETAIL.

I.—MEASURES RELATING TO DEPARTURE.

10. Measures relating to departure comprise observation, inspection, and the ascertaining of the sanitary state of the place and vicinity; the examination and ascertaining of the hygienic state of the vessel which is about leaving, of its cargo and provisions, of the health of the crew, and, if there are any passengers, of their health also; and lastly, of the bill of health, and all relating thereto. These observations, inspections, and examinations shall be confined to the authorities hereinafter designated.

11. All vessels before lading, must be visited by a delegate of the sanitary authority, who shall be a doctor of medicine, and submit to hygienic measures, if deemed necessary. The vessel shall be visited in all her parts, and her hygienic state ascertained. The authority shall inquire into the state of the provisions and beverages, in particular of the potable water and the means of preserving it; he shall also inquire into the state of the crew, and in general into every thing relating to the maintenance of health on board. If any person has been shipped, having a transmissible disease, such person shall be forthwith discarded.

12. Charges shall not be made until after the visit, and the accomplishment of the measures judged indispensable by the sanitary authority.

13. Captains and masters shall furnish to the sanitary authority all the information and all the evidence, to the best of their knowledge, demanded of them. If the sanitary authority judges necessary, and does not believe himself sufficiently informed by the captain or other persons in charge, he can proceed to a new visit, after the lading of the ship, in order to assure himself if all the prescribed hygienic measures have been observed.

14. These various visits shall be made without delay, and in such a manner as to avoid unnecessary loss to the ship.

15. Vessels carrying a foreign flag shall be visited by the sanitary authority, with the consul or consular agent of the nation to which the vessel belongs.

16. The number of passengers embarking on sailing vessels or steamers, the arrangement of their accommodations, and the quantity of provisions on board for the probable length of voyage shall be determined by the particular regulations of different governments adopting this code. But in no case should the number of individuals to be accommodated on board any vessel, or in any apartment provided

for the accommodation of crew or passengers, exceed in ratio one individual to every four hundred cubic feet of air space, together with provision for effectual ventilation in all weathers.

17. Passenger vessels of whatever size, and all vessels carrying sixty persons, or a smaller number, including crew, shall furnish themselves with the necessary medicines and apparatus for the treatment of the most ordinary diseases and accidents likely to happen on board. And it shall be the duty of the sanitary administration of each government to make out a catalogue of the medicines and apparatus, and detailed instructions for their use on board all vessels of this class.

18. All sea-going passenger vessels and all vessels having a larger number of persons on board than named in the last preceding article, shall carry a doctor of medicine, approved of by the sanitary authority.

19. Bills of health shall not hereafter be delivered until after the fulfilment of the regulations herein specified.

20. Vessels of the navy and revenue vessels shall not be subject to the preceding regulations.

21. In ordinary times, fishing-vessels, pilot-boats, vessels in the coasting trade, of the same country, and canal boats, need not carry a bill of health; the sanitary regulations of this class of vessels shall be determined by the local authorities.

22. No vessel shall have more than one bill of health.

23. Bills of health shall be delivered in the name of the local government by the sanitary authority, *viséd* by the consuls or commercial agents, and be of credit in the ports of all governments adopting this code.

24. The bill of health shall contain the name of the vessel, the name of the captain, or master, and the results of the examination, relating to the tonnage, merchandise, crew, and passengers; it shall state the exact sanitary condition of the place, the hygienic state of the ship, and whether there are any sick on board. In short, the bill shall contain all the information that can enlighten the sanitary authority of the port of destination, to give him as exact an idea as possible of the public health at the place of departure and environs; of the state of the ship, her cargo, the health of the crew and passengers. The environs are those places in habitual communication with the port of departure, and possessing the same sanitary relations. The bill of health for all parties adopting this code shall conform to the annexed model:—

BILL OF HEALTH.

Name of vessel.....
Nature of vessel.....
Flag.....
Tonnage.....
Guns.....
Port of Registry.....
Destination.....
Name of Captain.....
Name of Physician.....
Equipage.—All complete..
Passengers.....
Cargo.....
Hygienic state of ship.....
Hygienic state of Equipage,
Cordage, Sails, etc.....
Hygienic state of Passen-
gers.....
Food, Provisions, etc.....
Water.....
Disease on Board.....
Sanitary state of place and
environs.....
and that.....

Delivered th
18 at o'clock.

United States of America.

SANITARY REGULATIONS.

No.....
BILL OF HEALTH.
PORT OF

We of the Health Department in certify that the vessel hereinafter
named, left this port in the following condition, namely:

Name of vessel.....
Nature of the vessel.....
Flag.....
Tonnage.....
Guns.....
Port of Registry.....
Destination.....
Name of Captain.....
Name of Physician.....
Equipage.—All Compl.....
Passengers.....
Cargo.....
Disease on Board.....
Hygienic state of the ship.
Hygienic state of Equipage,
Cordage, Sails, etc.....
Hygienic state of Passen-
gers.....
Food, Provisions, etc.....
Water.....

We also certify that the Sanitary state of the place and environs
and that

the
In testimony of which we have delivered the present Bill of Health, at
18 at o'clock.

(Signed.)
[SEAL.]

25. Whenever there prevails at the place of departure, or in its environs, one of the three maladies reputed to be importable or transmissible, and when the sanitary authority shall have declared its existence, the bill shall give the date of the declaration. It shall give the date of the cessation of the same when the cessation shall have been established.

26. In conformity to the provisions of Article 6, the Bill of Health must be either *Clean* or *Gross*. The sanitary authority shall always pronounce upon the existence or nonexistence of disease at the port of departure. Doubtful cases shall be interpreted in the most prudent sense,—and the bill shall be gross. In regard to passengers, for those whose health may be suspected, the sanitary authority may demand the certificate of a doctor of medicine, known to him to be of good standing, and if any proposed passenger is thus found to be in a condition comprising the health of the ship or of persons on board, he shall, upon the direction of the sanitary authority, be prohibited.

27. Bills of Health can only be considered as valid when they have been delivered within the forty-eight hours last preceding departure. If the departure is delayed beyond this period, the bill must be *viséd* by the authority delivering it, stating whatever change may have taken place.

28. The existence of transmissible or importable disease in the quarantine establishment of any place shall not alone be considered cause sufficient for a *gross* bill of health.

II. — SANITARY MEASURES DURING THE VOYAGE.

29. All vessels at sea shall be kept in a good state of ventilation and cleanliness. And to this end it shall be the duty of the sanitary authority at the port of departure, to see that every vessel is provided with the necessary means, and that captains and masters are sufficiently conversant with the use of those means, for the purposes indicated.

30. Captains and masters shall conform to the instructions of the sanitary authority ; otherwise, on arriving, they shall be considered as having a *gross* bill of health, and be treated accordingly.

31. Physicians attached to sea-going vessels shall be considered as the agents of the sanitary authority, and it shall be their special mission to watch the health of the crew and passengers, to see that the rules of hygiene are observed, and, on the arrival of the vessel, to give an account of the circumstances of the voyage. They must also keep an exact record of all circumstances of interest to the public health, meteorological observations, etc., and note with particular care the history and treatment of all the diseases and accidents that occur.

32. In vessels carrying no physician, it shall be the duty of the master or captain to fulfil, as far as practicable, the obligations of the last preceding article.

33. All captains or masters touching at or communicating with a port, shall have their bills of health *viséd* by the sanitary authority ;

or, in default of such authority, by the delegated officer of the local police.

34. It is forbidden to the sanitary authority at the port where a vessel touches, or holds communication, to retain the bill of health given at the port of departure.

35. In cases of death at sea from a disease of a suspected character, the wearing apparel and bedding which have been used by the deceased in the course of his sickness, shall be burnt if the ship is at anchor; if *en route*, thrown into the sea, with the necessary precaution that they shall not float. Other articles belonging to the deceased shall be immediately aired or otherwise purified.

III. — SANITARY MEASURES ON ARRIVAL.

36. All vessels on arrival shall submit to an examination and questioning. The examination and questioning shall be made by the sanitary authority delegated for that purpose; and the result shall be recorded upon a special register.

37. All vessels, furnished with a clean bill of health, which have had during the voyage no disease or communication of a suspected nature, and which present a satisfactory hygienic condition, shall be admitted to free *pratique* immediately after examination.

38. There being no evidence that any disease was ever introduced into a community by persons who had been quite healthy during the voyage, and were so on arrival, such persons should not be detained under the apprehension that disease may be dormant in their systems. All well persons shall be allowed free *pratique*, excepting only the temporary delay provided in Article 4 for smallpox, immediately after arrival.

39. Whenever there are sick on board, they shall be removed as promptly as possible from the vessel to clean and airy rooms on shore, or to a floating hospital moored in a healthy situation. The detention of such persons in an infected ship is obviously most objectionable, and should be allowed under no circumstances whatever.

40. The experience of quarantine shows that the fears of pestilential disease being introduced by the ordinary cargoes of dry and imperishable goods is groundless, and that with the temporary exceptions hereinafter provided, such cargoes shall be admitted to free *pratique* immediately after examination. Nevertheless, there are numerous articles of commerce which should not be landed except under special restrictions, and apart from all populous neighborhoods.

41. The application of sanitary measures to merchandise shall be arranged in three classes: 1. Merchandise to be submitted to an obligatory quarantine and to purification; 2. Merchandise subject to an optional quarantine; and 3. Merchandise exempt from quarantine.

The 1st class comprises clothing, bedding, personal baggage and dunnage, rags, paper, paper-rags, hides, skins, feathers, hair, and all other remains of animals, woollens, and silks.

The 2d class comprehends cotton, linen, and hemp; and *cattle*.

The 3d class comprehends all merchandise not enumerated in the other two classes.

42. With a *gross bill* and existing quarantinable disease on board, or if there has been any such disease on board within the ten days last preceding, merchandise of the *first* class shall always be landed at the quarantine warehouse or other place provided, distant at least two miles from all populous neighborhoods, and there submitted to the necessary measures for purification. Merchandise of the *second* class may be admitted to free *pratique* immediately, or transferred to the warehouse, according to circumstances, at the option of the sanitary authority, with due regard to the sanitary regulations of the port. Merchandise of the *third* class shall be declared free and admitted without unnecessary delay.

43. In all cases of a gross bill, letters and papers shall be submitted to the usual purifications; but articles of merchandise, or other things not subject to purifying measures, in an envelope officially sealed, shall immediately be admitted to free *pratique*, whatever may be the bill of health. And if the envelope is of a substance considered as optional, its admission shall be equally optional.

44. A foul ship is much more to be dreaded, as a vehicle of introducing disease, than anything she has on board; and vessels in a filthy, unwholesome state, whether there has been sickness on board or not, should not be allowed to enter a crowded port, or to lie alongside a wharf or other ships, until they have been broken out, duly cleansed, and ventilated.

45. If a vessel, though furnished with a *clean* bill of health, and having had during the voyage no case of sickness, yet be found in a bad or infected state, or in a condition which the sanitary authority judges compromising to the public health, the vessel and cargo shall be detained until the case has been considered by the authority; his decision, however, shall be rendered within twenty-four hours.

46. If in the judgment of the sanitary authority the vessel requires it, he may order the following hygienic measures: Baths and other bodily care for the *personnel*, washing or disinfecting means for clothing; displacement of merchandise on board or a complete breaking out; subjection to high steam, incineration or submersion at a distance, in the sea, of infected articles; the destruction of tainted or spoiled food or beverages; the complete ejection of water; thorough cleansing of the hold, and the disinfection of the *well*; in short, the complete airing and ventilation of the vessel in all her parts, by the use of force-pumps, steam, fumigation, washing, rubbing, or scraping, and finally sending to an isolated anchorage ground. Whenever these divers operations are deemed necessary, they shall be executed in the more or less complete isolation of the vessel, according to circumstances, but always before admission to free *pratique*.

47. All vessels having no bill of health, which, by reason of the place from whence they came, could not obtain one, or in case of accidental loss of bill, shall submit to restrictions according to circumstances, depending upon the judgment of the sanitary authority, in conformity with the provisions herein established.

48. All bills showing evidence of erasure or alteration shall be con-

sidered null, and shall incur the conditions of the last preceding article, without prejudice to the proceedings which may be instituted against the authors of the alterations.

49. A doubtful case, reported in an unsatisfactory manner, shall always be interpreted in the most prudent sense. The vessel shall be provisionally detained.

50. Admission to free *pratique* shall be preceded by as many visits to the vessel as the sanitary authority may judge necessary.

51. No vessel can be put in quarantine, without a stated decision of the sanitary authority. The captain or master of the vessel shall be informed immediately after of this decision.

52. A vessel shall have the right, except when they have plague, yellow fever, or cholera on board, of putting to sea, in preference to being quarantined; and in the exercise of this right, if the vessel has not arrived at the port of destination, the bill of health shall be returned; the sanitary authority, however, shall mention upon such bill the length and circumstances of the detention, also the condition of the vessel on reputting to sea. But before the exercise of this right, the sanitary authority must assure himself that the sick will be taken care of for the remainder of the voyage; and take charge of such of the sick as prefer to remain.

53. Besides the specific measures in the foregoing regulations, the sanitary authority of each country or port has the right, according to Article 1, in the presence of immediate danger, to take the responsibility of applying such additional measures as may be deemed indispensable for the protection of public health.

54. Notwithstanding the preceding regulations, whenever the sanitary state is positively healthy, vessels going from one port to another in the same country can, in virtue of the particular sanitary regulations of each country, be freed from sanitary examinations. And, in ordinary times, by virtue of declarations exchanged between the contracting nations, all vessels, proceeding or intending to proceed from one of two countries to the ports of the other, may also be free from examination.

IV. — EXECUTIVE ARRANGEMENTS.

55. Every seaport town requiring the obligations of quarantine, should have a quarantine hospital for sick persons, warehouses for infected goods, with the necessary docks, and a designated anchorage ground for infected vessels; these several parts of the establishment shall be at such a distance and direction from each other, and all populous neighborhoods, infectious and infectable places, as to endanger the life of no one.

56. On the arrival of infected vessels at the quarantine establishment, all well persons shall be admitted to free *pratique* as soon as possible consistent with the foregoing regulations; sick persons shall be immediately transferred to the quarantine hospital, or to hospital ships, and the vessel unladen as soon as practicable. All merchandise shall

be placed in capacious and perfectly secure warehouses, and there freely exposed to the air, and moved from time to time to insure its perfect ventilation.

57. Merchandise coming from different vessels and places in quarantine, at different times, shall be kept separate, and placed as much as possible in different warehouses.

58. Merchandise of the first class (Art. 41) shall be submitted to such measures of purification as the sanitary authority shall judge necessary. No putrefied animal or vegetable substances, or substances likely to putrefy, shall be admitted into the warehouses. All such substances shall be rendered innocuous or destroyed.

59. The clothes and dunnage of passengers contaminated with the infection of different diseases shall be exposed to ventilation in different places.

60. Each Quarantine establishment shall have one or more warehouses specially appropriated to the reception of purified merchandise, to which all merchandise may be removed so soon as it shall be deemed by the sanitary authority admissible to *pratique*.

61. Letters or dispatches shall be so purified that the writing may not be affected. Consuls and representatives of foreign countries have the right to be present at the opening and purification of letter-bags, or other mail packages addressed to them or designed for their country. Postmasters shall have the same right as consuls and foreign representatives.

62. All governments and places adopting this code shall as soon as practicable provide the necessary arrangements and appurtenances for fulfilling the obligations it imposes.

63. In case of the arrival of infected vessels at a port not provided with a quarantine establishment, vessels or hulks may be appropriated to the service of the sick, and also for the reception of merchandise; but in such cases they shall be disposed in such a manner as will permit the separation of the sick and assure the best conditions of hygiene, — especially ventilation. But under no circumstances whatever shall sick persons be kept in proximity with infected goods. Well persons shall have their liberties as soon as practicable, consistent with the preceding regulations; and all other measures essential for the protection of public health, shall be instituted according to the exigencies of the case, provided they are not inconsistent with the tenor and spirit of these regulations.

V.—SANITARY AUTHORITIES.

64. Sanitary authorities shall be established upon a uniform basis by the countries or governments adopting this code, and shall be composed: First, of a responsible agent of the government, who shall be a doctor of medicine; and, Second, of a local Sanitary Council or Board of Health.

† In addition to the above Report, presuming it to be adopted, your Committee beg leave to offer the following resolutions:

1. *Resolved*, That this Report be referred back to the Committee,

with directions to negotiate with our National Government or Department of State, to secure, by convention or otherwise, the national and international adoption of a code based upon the principles hercinbefore set forth.

2. *Resolved*, That a committee of one from each State represented in this Convention be designated by the delegates of the several States, and appointed by the Chairman of the Convention, with power to confer with the governments of their respective States for the adoption of such code.*

3. *Resolved*, That the local sanitary authorities of the several States and municipalities in the United States be furnished with a copy of this Report, and that they are hereby respectfully requested to carry into effect all its *specific recommendations*, and the general provisions of the code, without waiting for their national and international adoption.

Respectfully submitted,

A. N. BELL, *Chairman* ;
ELISHA HARRIS,
WILSON JEWELL,
R. D. ARNOLD,†
H. G. CLARK.

* By vote of the Convention, it was Resolved, "That the Committee on External Hygiene have power and be directed to select a suitable person from each State, not represented in this Convention, to aid in carrying out the objects of the second resolution of their Report."—The following persons were appointed from the States represented: Gov. Emerson of Penn.; Dr. Gunn, N. Y.; Dr. Snow, R. I.; Dr. Moriarty, Mass.; Dr. J. A. Nichols, N. J.; Dr. G. B. Guthrie, Tenn.; Dr. Thompson, Ohio; Dr. Kemp, Md.

† It was voted, on motion of the Chairman of the Committee submitting the Report on External Hygiene, "that two additional members, appointed by the Chair, should be added to that Committee. Drs. R. D. Arnold and H. G. Clark were appointed.

BRIEF SUMMARY

ON THE IMPORTANCE OF ESTABLISHING AN INTERNATIONAL SYSTEM OF QUARANTINE, BY DR. D. B. REID,* MADISON, WISCONSIN.

There are few civilized nations in which the progress of medical science has not led to important changes in the administration of quarantine. Discoveries in chemistry and mechanics, the power of heat, cold, ventilation, and disinfecting agents, and a better knowledge of the nature and characters of disease, have all tended to lessen the severity of the practice of former times, to remove restrictions on commerce, and to place increased resources in the hands of the practitioner in securing the right conduct of an efficient quarantine, wherever it may be necessary.

It has been a growing conviction with medical men, however, that too little attention is still paid to the condition of ships' cargoes, crews, and passengers at the port of embarkation, and that in consequence of this defect they often start with disease, or in a condition that leads to its development when they are at sea, that might have been prevented, or at least largely reduced. From this cause an unnecessary increase in the severity of quarantine restrictions, and consequently in the cost, becomes imperative at ports of arrival.

As it is manifest that health on board ship must depend essentially on the condition in which it leaves the port of embarkation, the conduct of the voyage, and the position in which it is placed at the port of arrival, it is impossible to do full justice to this question, or to secure those measures that the best protection against the production of disease, and the most effective modes of controlling it, unless the authorities, both at the port of embarkation and arrival, as well as those who direct the voyage at sea, shall concur in the necessary measures to do adequate justice to this question. Foreign governments must concur in lending their mutual aid to the solution of the principal problems it involves. A quarantine system is essentially a sanitary question; and the broader the basis on which it is founded, the greater the advantages attending it, and the more certain its success in improving the system and lightening the burdens attending it; and though it is only required between such nations as are engaged in commerce, and more especially within certain latitudes, the more cosmopolitan the character of any arrangements that may be entered into by treaty or otherwise, the more likely are they to be generally adopted, and to promote the preservation of health both at sea and on shore.

Such being the circumstances under which the attention of the Committee was directed to the subject under consideration, the author

* Dr. Reid was appointed a member of the Committee on External Hygiene, but owing to unavoidable causes he was unable to participate in the work of the Committee submitting the Report. His "Brief Summary" was received after the Report was made out.

A. N. BELL, *Chairman of the Committee.*

of the following summary has endeavored to place in the appended resolutions a scheme that may be rendered a general basis of action in leading commercial nations to a united effort for the promotion of this case. Twenty years have elapsed since he directed the execution of works for ships in warm climates, (the coast of Africa and the interior,) and he has since directed other works in different classes of ships, more especially during the prevalence of severe disease among British troops in China, and latterly at New York, in the construction of the Russian frigate, the *General Admiral*, in which his plans for ventilation were introduced. Since the meeting of the Sanitary Convention last year at New York, he has had a special opportunity of bringing this subject under the notice of one of the members of the Cabinet at London, the President of the Board of Trade, the Hon. Mr. Milner Gibson, the details previously submitted to His Excellency the President at Washington, and has received from another, the Rt. Hon. Lord John Russell to different embassies on both sides of the Atlantic to facilitate his proceedings on this question, though he desires to state explicitly that he has no authority nor right to connect the names of these parties with the resolutions that follow, which are brought forward on his own responsibility alone. But from the varied opportunities he has had of inquiry as to the points at issue, he entertains the conviction that their discussion has already been attended with the most important results, and that it requires only the continued co-operation of the medical profession to secure a proper attention to their importance, and to the improvement of the condition of the sailor and passenger at sea, as well as when detained on shore, and the removal of restrictions on commerce to the greatest degree compatible with the public health.

It is proposed accordingly, with every deference to the views of the Committee, that it recommend the following resolutions to the consideration of the Sanitary and Quarantine Convention to be held this year at Boston :—

I. That the objects contemplated by quarantine would be more effectually attained, and with less interference to commerce, individual comfort, and personal liberty, were an international system established, recognizing more fully than hitherto the importance of sanitary arrangements on board ship and at all ports, and by giving efficiency to this recognition by an adequate system of international laws, inspection, and local regulations.

II. That the medical and other authorities at quarantine stations should not only superintend the quarantine of vessels as they arrive, but also, with such assistance as may be suitable, give advice and directions that may assist in securing proper sanitary arrangements in vessels loading for special ports, and in maintaining them in action during the progress of the voyage.

III. That as modern science has developed numerous new resources for preventing and controlling disease, the physician in chief at quarantine, or other responsible medical authority, should, under prescribed regulations, have more power than is usually granted to him to

extend or relax the period or measures required for quarantine in individual cases.

IV. That with the view of facilitating the labors of the medical profession, and other authorities, in directing measures for the improvement of quarantine, all governments taking a practical interest in this question shall be invited to concur in providing a series of colored illustrations with explanatory letter-press in the English, French, Spanish, and German languages, presenting such information as to the sanitary improvement of ships and ports, as may assist in directing a more extended attention to these questions among all parties interested in them, including particularly the following subjects:—

- a. The ventilation of ships.
- b. The fumigation of ships.
- c. The warming, drying, and cooling of ships and cargoes.
- d. The best mode of destroying noxious refuse, or condemned goods, or clothing.
- e. The construction of steam tugs, especially in crowded seaports, having the means of placing the power of the whole or part of their machinery on the ventilation, fumigation, warming, cooling, or drying of ships, cargoes, or special materials.
- f. The introduction of similar resources in some ports by the aid of engines, fixed ventilating shafts or other machinery on shore, so that when a vessel is laid alongside an appropriate quay by proper connections with a tabular channel in the quay, more power may be brought to bear on the ship, crew, and passengers, or cargo, in half an hour, than can be secured under ordinary circumstances by any prolonged detention at quarantine without such resources.
- g. The construction of quarantine hospitals, with all the varied resources that can now be advantageously applied to them, whether afloat or on shore.

V. That the Sanitary and Quarantine Convention recommend the appointment of two or more members of the medical profession who shall have had practical experience at a quarantine station in the United States to communicate with the Federal Government at Washington on this subject, to urge its importance as the deliberate recommendation of the Convention, to suggest the meeting of a cosmopolitan assembly on quarantine in some city in Europe or the United States, to which the Federal Government shall be requested to send a representative.

VI. That inventors and others be invited to transmit models and drawings of all improvements for promoting health on board ship, in quarantine hospitals, and at quarantine stations, or on other matters connected with quarantine to this assembly.

D. B. REID.

MADISON, WISCONSIN, May 5, 1860.

REPORT ON REGISTRATION.

BY EDWIN M. SNOW, M. D., OF PROVIDENCE, R. I.

NOTE.

At the Second Annual Session of the Quarantine and Sanitary Convention, held in the City of Baltimore, in April, 1858, the following subject was assigned to the Committee on Internal Hygiene, and subsequently, by the arrangements of the Committee, was specially assigned to me, viz :

“ A complete and efficient system of Registration of Births, Marriages, and Deaths, with particular reference to cities, and the necessary connection of such a system with sanitary measures.”

Circumstances having prevented the completion of my report in season for presentation with that of the Committee at the meeting in New York, in 1859, I was requested, by vote of the Convention, to continue the investigation of the subject, and to report at the meeting to be held in Boston, June 14, 1860.

In accordance with this vote, the following Report is respectfully presented.

EDWIN M. SNOW.

Boston, June 14, 1860.

APPENDIX B.

REPORT ON REGISTRATION.

The proposition assigned to the Committee is so comprehensive in its character, that a full investigation of the subject would require a much more extended report than seems to me to be necessary to subserve the objects and aims of this Convention. Registration is not a new subject;—its general principles are well known, and systems modelled, to a greater or less extent, after that in use in England, have been in operation for many years in some portions of this country.

Nor have we been dependent entirely upon foreign writers for our knowledge of the subject. The reports of Drs. John H. Griscom of New York, Edward Jarvis of Massachusetts, and William L. Sutton of Kentucky, to the American Medical Association, have established the general principles of a system of registration as applicable to our institutions.

The writings of Dr. Emerson of Philadelphia, and of the late Mr. Lemuel Shattuck of Boston, and the official reports of different States and cities by Drs. Josiah Curtis and N. B. Shurtleff of Massachusetts, C. W. Parsons of Rhode Island, Wilson Jewell of Philadelphia, R. W. Gibbes, Jr., of South Carolina, William L. Sutton of Kentucky, C. L. Allen of Vermont, and others, have done much to spread a knowledge of the subject, and to show the practical operation and importance of Registration.

A Committee of the American Association for the advancement of Science" has also prepared a report upon Registration, which, when published, will be found to be extremely comprehensive and valuable.

So much having been so ably written upon the subject, it would be a work of supererogation to present, or to attempt to present to this Convention, "a complete system of registration." I shall therefore only give a few hints in relation to the practical application of such a system, with particular reference to cities in this country.

There are two principal objects of the registration of births, marriages, and deaths :

The first is to obtain and preserve a complete record of the movement and changes of the population of a place, for the purposes of legal and genealogical investigation. The identification of the individual for these purposes, in his relations to his family and to the community, must be considered the primary object of registration, and is equally impor-

tant in the city and in the country. Wherever the rights of property and the social interests of the people are of any consequence, it is certainly necessary that a complete record of the birth, marriage, and death of every individual, should be carefully preserved.

This important object of registration is very imperfectly understood and but little appreciated, and has been most sadly neglected, in this country. The title of a few feet of land is everywhere recorded with all the formality necessary for permanent preservation, while in most of our States no record is made of births, marriages, and deaths, either of which events may, at no remote period, affect the title to vast amounts of property. Indeed, it is not improbable that the titles to property are daily changed by births, marriages, and deaths, of which no record is made, more than by deeds which are recorded with so much care.

More attention is given in this country to the pedigree of animals than of human beings, and many persons can tell the exact genealogy of a favorite horse for several generations, who do not know the maiden names of their own grandmothers, nor would it be possible for them to ascertain the fact from any legal records.

It would probably be impossible for a large portion of the middle-aged men and women in the United States to prove that their own parents were ever married, and that they have any legitimate right to the name they bear.

The necessity for such information and proof is daily felt, and its constantly increasing importance furnishes abundant reason for the establishment of an efficient system of registration.

The second principal object of the registration of births, marriages, and deaths, is to furnish facts for statistical, scientific, medical, and particularly for sanitary inquiries.

When we consider the relation of statistical and sanitary investigation to the welfare of the people, and the results of such investigation in the prevention of disease and in adding to the length of human life, this object of registration appeals directly to the sympathies and interests of the community as well as of individuals, and its importance is apparent to all.

This object is particularly important in cities where so many complicated causes are constantly in operation to produce disease and death.

In the examination of this subject, I shall proceed to show —

First— The kind and extent of the information which it is desirable to obtain by registration, and,

Second — The best method of obtaining this information, particularly in the cities of the United States.

I. THE KIND AND EXTENT OF THE INFORMATION DESIRED.

If we refer to the two objects of registration as already stated, it will be seen that the character of the information required for these objects is entirely different.

For genealogical and legal purposes, and to show the personal history of the population, it is necessary that the record should be of such a character that each individual may be identified in his relations to his family. On the other hand, for statistical and sanitary purposes, we care nothing for the identification of individuals; but wish simply certain facts independent of all relation to individuals.

It will readily be seen that it is difficult to fix the limits to the information which may be obtained, and which may prove useful when obtained.

It is desirable that the portion of the information which is to be recorded should be such as may be given under suitable heads in a record-book of convenient size. These limits will be sufficient for recording all that is necessary to accomplish the first object of registration, viz: the identification of individuals; and will also be sufficient to include some of the most important items of information to be used for statistical and sanitary purposes.

For these purposes facts alone are required, some of which it is not necessary should be recorded; but the facts thus obtained may be used without recording, from the original returns, and their number and character may be changed according to the wants of different communities, and may be limited only by the ability to obtain such as are reliable. Those who have become interested in the study and analysis of such facts will agree with me that there is no danger of obtaining too many of them, or of obtaining such as cannot be used with advantage.

Such being the general principles in relation to the information which it is desirable to obtain by a system of registration, I can better show the particular items by giving a specimen of the blanks which seem to me to be best adapted to obtain returns of births, marriages, and deaths in the cities of this country. These blanks are given at the close of this Report. Their form is such that, when desirable, additional items may be added without interference with those already given.

It is believed that all the items given in these blanks are important to be obtained in every city, and perhaps the blanks for returns of births and marriages contain all that are absolutely important.

But while every item given in the blanks for returns of deaths is essential in every city, the blanks do not fully meet all the wants of any city. The circumstances, character of the population, and wants of each community, must be studied, and such additional items of information must be added as each special case may require. These deficiencies will readily suggest themselves to every Health Officer, and to every one who is acquainted with and interested in sanitary science.

In cities where any considerable portion of the population lives in tenement houses, or in cellar tenements, information should be obtained in the returns of deaths by which the mortality of such classes of the population can be shown.

In other cities it may be important to show the influence of location,

of the character of the soil, of the water in domestic use, and of many other circumstances, upon the mortality of the population.

Such items may be introduced, at the discretion of Boards of Health, into the blanks for returns of deaths, and every Registration Law should contain a provision authorizing Boards of Health to require such additional information as they may deem necessary.

All our most important information in relation to the causes of mortality is obtained by the division of those who die into classes, and by showing the number who die from each disease in each class.

Every item of information, then, which can be obtained in regard to the mortality of any considerable class or division of the population, is of the highest importance.

There is one item required in the blank for returns of deaths, given at the close of this report, which I wish to name particularly because of its peculiar interest and value, and because, so far as I am aware, Boston and Providence are the only cities where this information is obtained. I refer to the Parentage of those who die.

The information in relation to Parentage is important not only because the facts obtained relate to two classes of the population, which, as classes, are entirely different from each other in their sanitary condition and in all the circumstances with which they are surrounded; but it is also necessary because the division of the population according to nativity or birthplace has no value whatever, and only misleads and deceives the inquirer after truth. And yet the classification according to birthplace alone is given in the mortuary reports of all the cities in this country except the two named above.

The following examples will show the value of this distinction.

The subject of infantile mortality in our cities is one of the most important that engages the attention of those interested in sanitary science, and the proportion of this mortality to the whole number of deaths, is one of the best tests of the sanitary condition of a city. Any classification which will serve to show the causes of this mortality is surely worthy of the attention of sanitarians.

In the City of Providence, during the year 1859, there were 340 deaths of children under 5 years of age. Taking the classification according to nativity, we find that 338 of these children were of American, and 2 only, of foreign birth. But classified according to parentage, 137 were of American, and 203 of foreign parentage.

In the same city, during the same year, there were 75 deaths from the four diseases, cholera infantum, cholera morbus, diarrhœa, and dysentery. Of these 75 persons, 69 were of American and 6 of foreign birth; but according to parentage, 25 were of American and 50 of foreign parentage.

Similar results will be found in other cities, so that if we take the classification according to birthplace as given in the reports of nearly all our cities, we find that all the deaths from cholera infantum, nine-tenths of the deaths from diarrhœa and dysentery, and ninety-nine one hundredths of the deaths under 5 years of age, are among the American population. The mere statement of such facts shows their utter uselessness.

I have illustrated this subject more fully on another occasion, and it is not necessary to occupy the attention of the Convention farther with it at this time, except to urge its importance upon those who have the charge of registration, particularly in the larger cities of this country.

Such, it seems to me, are the principal points which should guide us, respecting the information which it is desirable to obtain by a system of registration.

We will now proceed to consider the second division of the subject, in which I propose to give a few considerations in relation to

II. THE BEST METHOD OF OBTAINING THE INFORMATION NEEDED IN RELATION TO BIRTHS, MARRIAGES, AND DEATHS, PARTICULARLY IN CITIES.

1. *In Relation to Births.*

Nearly all the registration laws in this country require parents or physicians, or both, to furnish to the recording officers the information respecting births, and provide penalties for the neglect to comply with this requirement. The last registration law in Massachusetts, passed in the autumn of 1859, contains the provision that, "Parents shall give notice to the clerk of their city or town of the births and deaths of their children."

I will venture to say that in Massachusetts, not one birth in fifty has ever been or ever will be recorded, under this provision; and it is evident that those who framed the law placed little dependence upon this section, as they have, in the same law, provided other and more efficient means for obtaining the information respecting births.

The provision requiring parents to furnish information respecting births is entirely useless for several reasons.

The services of too great a number of persons are required to obtain the necessary information. One general principle may be stated here, not only in relation to returns of births, but also in relation to all the returns desired in a system of registration: it is, that the duty of obtaining the information and making the returns should be committed to as few persons as possible. The reasons for this are obvious.

The large majority of parents, particularly in cities, have very little knowledge of the law, and take very little interest in it; and if they have a knowledge of the law, very few of them will take the trouble to comply with its requisitions.

The provision, in some places, requiring physicians to report the births of children occurring in their practice, is equally inoperative and useless, for obtaining complete and perfect returns.

Physicians, as a class, are as ready to do their duty to the public as any other persons; but among them, as in all other classes, there are not a few individuals, who would refuse to comply with a statute which required considerable trouble, and which they were called upon to obey without remuneration, and with the threat of prosecution in case of non-compliance. The result of such a provision, in a regis-

tration law, is, that only a small portion of the physicians will comply with its requisitions. Again, most physicians dislike to make these returns, because, by so doing, they reveal information relating to their practice which the public has no right to demand. Moreover, if all physicians faithfully comply with the law, we cannot thus obtain full returns of births. A considerable portion of the children, particularly in cities, are born without the attendance of physicians, and the returns of these births must be obtained from the parents, or other parties. The objections to this have already been stated.

Again, in the registration of births, it is very important that the names of the children should be recorded. The physician completes his attendance usually within a few days after the birth; and in most cases before the child is named. It cannot be expected that he will take the trouble to visit the child, perhaps repeatedly, until he can ascertain and report the name. Hence it has been found wherever the experiment has been tried, and will be found in future, that physicians' returns of births are generally deficient in the names of the children, and frequently in other particulars.

We therefore find in practice, what might be expected in theory, that all laws, requiring parents or physicians to make returns of births, utterly fail in obtaining full and correct returns.

The only method by which returns of births can be obtained in cities, with any approach to fulness and correctness, is by requiring the recording officer to obtain the information personally, or by his agents.

The Registration Law upon this subject, in Rhode Island, is as follows:

"OF BIRTHS. Sec. 5. It shall be the duty of the clerk of each of the towns, annually, in the month of January, to collect the facts required by section third of this chapter, in relation to all children born in the town during the year ending the thirty-first day of December next preceding, and for each full report of a birth so obtained, the clerk shall receive ten cents to be paid by the town in which the birth is recorded."

A separate fee of ten cents each is provided for recording the returns after they are obtained, so that the interest of the clerk coincides with his duty, to obtain as full returns as possible. Self-interest and duty combined, in this as in other cases, are usually sufficient to accomplish the desired results.

Under this plan for obtaining returns of births, marshals are employed in Providence, to visit every family in the city, in the months of January and July of each year, and obtain all the necessary information in relation to all the children born during the six months next preceding. These marshals are furnished with the blanks for returns of births which are bound, by the top, in convenient volumes, each containing one hundred blanks. After the blanks are filled, they are cut out, and are arranged according to dates before being recorded.

It is not difficult to find suitable men in all our cities, who would be willing to obtain the returns in this manner for the fee which is allowed by the Registration Law of Rhode Island.

With faithful marshals, the only chance for failure to obtain complete returns under this plan, is on account of removals from the city.

Among certain classes of the population of all cities, removals are frequent, and some returns are undoubtedly lost in this way; but if the marshals are instructed to obtain returns of the births of all children born during the preceding six months, the number obtained who were born in other places, will, probably, equal the number lost by removal.

In some cities, the children who were born in other places are omitted in the census of births. The objects of the registration of births are two; *First*, To preserve a record of the births of all *the inhabitants* of the place; and *Second*, To obtain the exact number of births in a place for statistical purposes. It seems to me that both these objects will be most nearly accomplished, by including in the returns all the children found who were born during the preceding six months.

On account of removals, it is important that the census of births in all cities, should be taken at least twice in each year.

Such, in my opinion, is the only feasible plan for obtaining returns of births in the cities of this country, with any approach to completeness. A similar method has been adopted in Boston for some years, and a comparison of the returns of births in that city and in Providence, with those of other cities, furnishes good evidence of the superiority of the plan.

2. *In Relation to Marriages.*

The returns of marriages in all our cities are obtained under the provisions of State laws, and, for obvious reasons, it is not advisable that cities should pass additional laws upon the subject. And yet, the record of marriages is of so great importance, that it may not be improper to give a few observations in relation to the modes of obtaining the returns.

When we consider the effect of marriages upon the titles to property, and their importance in tracing the history of families, the indifference in this country to the preservation of the proof of these events, is most remarkable. The tendency, for some years past, of all legislation upon the subject, at least in the Eastern States, has been to remove all impediments to the performance of the marriage ceremony. The public notice of the intention of marriage has been generally abolished, and in some States, parties of almost any character, or age, and even of different races, can be united for life, without restriction. The most sacred obligations,—obligations which are not for a day, but which can be rightly absolved only by death, are assumed with less form and ceremony, and are made a matter of less importance, than the conveyance of a square foot of land.

It is certainly reasonable that legislative enactments should place some restriction upon the hasty assumption of such obligations: but, at any rate, if persons will act thus inconsiderately, it is no more than just that the rights of their posterity should be protected by the careful record of their folly.

In all portions of this country, so far as I am aware, where any regulations exist upon the subject, it is made the duty of the clergyman,

or other person performing the ceremony, to furnish the report of the marriage to the recording officer. In Massachusetts and Connecticut, a preliminary record of the intention of marriage must be made; but as this record of the intention is no proof of the marriage, and as it does not accomplish the object of a publication of the intention, I can perceive little utility in it. There, as in other States, the return of the marriage necessary for the record, must be obtained from the officiating clergyman.

In Rhode Island, the blanks in the return of a marriage must be filled out and must be signed by the parties, and delivered to the clergyman, before he can perform the ceremony. But we still depend upon the clergyman for the return, and there seems to be no particular benefit in the regulation, except that when the clergyman has the blanks already filled and signed, he may be more inclined to do his duty, and make the return to the recording officer. It also enables us to show what portion of those who enter the married state can write their own names.

I am sorry to say, but truth compels me, that very many clergymen do not seem to appreciate the importance of the record of marriages, and are sadly delinquent in the observance of their duty to make the returns. I venture to assert that, in no city in this country are complete returns of marriages obtained, without continued and persistent effort on the part of the recording officer.

The whole system is wrong, and the lamentable results of this relaxation in the laws relating to marriage, and of this neglect in making the necessary record, are every day seen in the increase of petitions for divorce, and in the civil and criminal suits at law which are from time to time brought before the community.

The remedy for these evils is to give the marriage contract the importance which it deserves, and which the highest interests of the community demand. The best method of accomplishing this object, in my opinion, is, by the adoption of a system somewhat similar to that contained in the *Code-Civil* of France.

A formal marriage contract, containing the full description and family history of the parties, should be written, signed, and sealed, before competent witnesses. This contract should be acknowledged by both parties, before the proper officer, and should be placed on record.

When this is done, the recording officer should issue his certificate of the fact, and this certificate, and this alone, should authorize the performance of the religious ceremony by any clergyman. But the contract itself, signed, acknowledged, and recorded, should be taken as proof of the marriage, and should constitute the marriage so far as all legal and civil rights are concerned, the performance or omission of the religious ceremony being left to the option of the parties.

With these provisions, persons would not rush into the marriage relation so heedlessly as at present; the clandestine marriage of minors would be prevented: every marriage would be recorded, and the proof of every marriage would be preserved with the same care as that of deeds of land and of other civil transactions.

Such, it seems to me, is the most efficient plan for obtaining the information necessary for the record of marriages, and for preserving the proof of these important events.

3. *In Relation to Deaths.*

The information relating to deaths is more intimately connected with the objects of this Convention, and is more important to us as students in sanitary science, than that relating to births or marriages. Hence, the best method of obtaining full and complete returns of deaths, especially in cities, is a subject requiring the most careful consideration.

The radical defect of the different systems adopted for obtaining these returns, in most of our cities, is, that they permit the removal and burial of the dead, without requiring sufficient evidence in relation to the cause of death.

The death of a human being is always an event of sufficient importance to call for a careful investigation, and the estimate of the value of human life is so low among a portion of the population of our cities, that a proper regard for the welfare of the community demands that every death should be fully accounted for.

The cases are unfortunately not uncommon in many cities in which deaths are caused by violence, and of course require investigation previous to burial; but besides these, there are numerous instances where, though there is no positive suspicion of violence, the death occurs under circumstances that call for an investigation. The safety of the community and a proper regard for the public morals demand that it should be made impossible to bury the dead in such cases until the cause of death is satisfactorily ascertained and all suspicions removed.

For these reasons, and also for the purpose of obtaining complete returns of deaths for legal and genealogical, and particularly for sanitary investigation, the rule should be made imperative in all systems of registration in cities, that

1. *No dead body of a human being shall be buried, or placed in a tomb, or removed from the city, without a permit from the recording officer.*

2. *No permit shall be given until full information concerning the deceased person is furnished, including satisfactory evidence in relation to the cause of death.*

This plan for obtaining returns of deaths simplifies the whole subject, and renders unnecessary many regulations which are essential under any other plan. The principle that no dead body of a human being shall be disposed of until the cause of death is fully accounted for, will commend itself to the favorable opinion of the community, and a public sentiment will be created which will be an efficient aid in the enforcement of the law, and will insure complete returns of deaths so far as this object can be attained by legislative enactments.

Another advantage of this plan is, that the returns of deaths will be made promptly, within a few hours after the death occurs, thus giving the health officer full knowledge, at any time, of the causes of death

which are prevalent in the community, and of the locality in which particular diseases exist. This consideration is of great importance at all times, and particularly when an epidemic is present in a city.

This plan requires "*satisfactory evidence in relation to the cause of death.*" Such evidence should be the physician's certificate in all cases where a physician was in attendance during the sickness of the deceased person. This certificate should be required in all cases, without exception, when it is possible to obtain it.

In cases of sudden death, when a coroner's inquest is held, the certificate of the coroner should be required as evidence of the cause of death.

But in addition to the cases where the physician's or coroner's certificate of the cause of death can be obtained, a considerable number of deaths occur in cities without the attendance of a physician, and without the investigation of a coroner. The purposes of registration and the safety of the community require that better evidence of the cause of death should be obtained, in such cases, than the statements of the friends of the deceased. These statements are never reliable as positive evidence of the cause of death, and besides, if they are received as evidence, an opportunity is afforded for the burial of persons whose deaths occur under circumstances which absolutely demand investigation.

To obviate these objections, well-qualified physicians should be appointed in all cities, whose duty it should be to make an examination into the circumstances relating to all deaths which are reported without the certificate of a physician or of a coroner. This officer should visit the body, and make such inquiries as may be necessary to ascertain the cause of death. If the circumstances seem to demand it, he may report the case to a coroner for further investigation; but, in nine cases out of ten, the examination of a qualified physician will be sufficient, and he can give a more satisfactory opinion in relation to the cause of death than it is possible to obtain from a coroner's inquest, as they are conducted in most cases, in our cities.

Perhaps it may be best that the examining physician should be clothed with the powers of a coroner, and most certainly all coroners should be physicians; but the laws relating to the duties of these officers should be such that it shall not be greatly to their pecuniary advantage to hold an inquest, when a personal examination may be entirely sufficient and satisfactory.

In small cities, the recording officer, if a physician, as he always should be, may be required to ascertain the cause of death in such cases, by personal investigation; but in large cities more than one such officer will be necessary.

In all cities the burial of the dead and the management of funerals are mostly in the hands of undertakers, and from them the greater portion of the returns of deaths will be received, under the system I have proposed.

For the purpose of securing efficiency in the operation of a system of registration in cities, and for the prevention of abuses, no person

should be permitted to act as an undertaker without a license first obtained from the Board of Health, and this body should have the power to revoke any license for satisfactory reasons.

Though not especially pertinent to this subject, I may be permitted to remark that if gentlemen will make inquiries in their several cities, they will find, in my opinion, that no business needs the regulations and restrictions of law for the prevention of abuses, more than that of undertakers.

Such seems to me to be the best plan for obtaining returns of deaths in cities. It is certainly correct in theory, and judging from my own experience in connection with the subject, I am confident that it will be found successful in practice, and will furnish more nearly complete returns, and with less trouble, than can be obtained in any other way.

Other methods of obtaining returns of deaths have been adopted in different cities, and the results of their operation are known to those who are acquainted with the subject. I think that such persons will agree with me in saying that they have all failed in obtaining the full benefits of registration. Among these plans is that which has been in operation in the city of Providence, during the last four years.

I refer to this particularly, because it has been supposed to be efficient, and because it has been recently adopted, in substance, in one of our largest cities, and has been recommended for adoption, by the Board of Health of another city.

This plan is, briefly, as follows :—

1. Physicians are required to leave a certificate of the cause of death with the undertaker, within forty-eight hours after the death occurs.

2. The undertaker is forbidden to bury, or place in a tomb, or remove the body, until he has received the physician's certificate of the cause of death, or, if this cannot be obtained, a permit from the City Registrar.

3. Persons other than undertakers are required, in all cases, to make a report, and obtain a permit, before they can bury or remove a dead body.

4. Undertakers are required to make returns of deaths to the City Registrar, on Monday of each and every week.

It is certainly true that during the last four years, under this system, we have obtained in Providence, almost without exception, complete returns of all the deaths in the city, together with the physician's certificate of the cause of death in nearly every case in which a physician was in attendance.

And yet, in the practical operation of the law, I find difficulties and defects, even in the comparatively small city of Providence ;—defects which, in my opinion, would seriously impair its efficiency when applied to larger cities.

Some of the objections to this system are the following :—

1. The section requiring physicians to leave a certificate of the cause of death with the family of the deceased, or with the undertaker,

is not, and never can be enforced. Physicians are generally willing to sign the certificate when it is presented to them for this purpose; but they will not take the trouble to leave it with the family, or with the undertaker. The result is, that the duty of obtaining the certificate devolves wholly upon the undertaker, and as this often requires considerable trouble, it is neglected until after the burial, and without constant and unremitting watchfulness on the part of the recording officer, some certificates will fail to be received.

2. Another and the most radical defect in this system is, that though the law may be rigidly enforced, it is possible, under its provisions, to bury the dead without that investigation which the welfare of the community demands. When a death occurs in which no physician has been in attendance, the evidence in relation to the cause of death is obtained from the undertaker, who receives his information from the friends of the deceased. But though the undertaker may do his duty faithfully, by reporting the case, and obtaining a permit before the burial, he is liable to be deceived by the friends of the deceased, and would certainly be deceived in precisely those cases where there are suspicious circumstances attending the death, and where an investigation is most necessary.

A case of this kind occurred a few months since in Providence, in which the undertaker, being deceived by the friends, reported the cause of death as consumption, and received a permit for burial. Subsequent investigation showed it to be a case in which an unmarried woman, in attempting to conceal the birth of a child, lost her own life as well as that of the child.

3. Another objection to this law is, that a weekly return of deaths is not sufficiently frequent to meet the wants of a Health Officer. He should be able to ascertain at all times, what causes of death are in operation in the community, that he may promptly take the necessary measures for their removal. This is especially important in times of epidemics.

Without dwelling longer upon the defects of this system, it may be sufficient to say, as the result of four years' experience, that its practical operation is not entirely satisfactory, even in a small city, and that the objections to it would, in my opinion, have still greater force in larger cities.

That there will be imperfections in the returns, under the system I have proposed, as well as under all other systems, is most certain, and the recording officer, if interested in the subject, will have frequent occasion to regret that his wishes are not fully realized, either in the character or extent of the information obtained.

The physicians' certificates of the causes of death, which are absolutely essential, and should never be omitted in any system of registration, will not always be satisfactory to an intelligent recording officer. If qualified to judge upon the subject, he will, not unfrequently, receive certificates from physicians which he will know cannot be correct, and he will constantly find evidences of haste, carelessness, and even of ignorance, in some physicians, which will seriously impair his confidence in the reliability of human testimony upon this subject.

And yet, the certificate of a physician who has attended a case of fatal sickness, is the best evidence that it is possible to obtain in relation to the cause of death, and should never be omitted in the return. A physician's certificate that the cause of death is unknown, is much more satisfactory than the surmises of other persons.

It has been found in Providence, that the habit of signing the certificates of the causes of death has been an incidental but very great benefit to physicians themselves, by rendering them more careful and exact in their diagnosis of diseases.

It may be objected that the plan here recommended, of requiring a permit in all cases previous to burial, will prove burdensome in large cities. To this I should reply that, if the principle is correct, that the highest interests of the community demand that the death of every individual should be fully accounted for, the acknowledgment of this principle implies the necessity for the adoption of sufficient measures for accomplishing the object. But I do not anticipate any difficulty upon this point. The cases must be very rare where it is necessary to bury the dead before there is time to obtain a permit, and I should consider the prevention of hasty burials, which are too common in this country, an incidental argument in favor of the plan proposed.

But the practicability of this plan has already been tested in the largest city in this country. Through the foresight of the last President of this Convention, an ordinance was adopted in the city of New York, nearly twenty years since, requiring a permit to be obtained in all cases previous to the removal of a dead body from the city. As, in consequence of the growth of the city, nearly all the dead are removed to other places for burial, the practical operation of the ordinance in New York, at the present time, is precisely what I have recommended. The plan proposed is also in operation in Buffalo, and perhaps in some other cities.

It is a constant source of regret to Health Officers, and to all who are interested in sanitary science, that we have no registration of cases of sickness as well as of deaths. Only a small portion of the sickness which exists at all times proves fatal, and we therefore receive no official knowledge of its existence, and yet, the information relating to cases of disease in a community is more important to the Health Officer, with reference to preventive sanitary measures, than that relating to deaths. I do not think, however, that it is advisable to attempt to obtain this information in connection with the registration of births, marriages, and deaths.

The information in relation to cases of sickness in a community must be obtained, if at all, directly from the physicians themselves. The Board of Health, in our cities, usually have, and always should have, the power to call for this information whenever the interests of the public health require it. But, after all, their success in obtaining reports of cases of disease will depend very much upon the interest which physicians can be induced to take in the subject, and it will be difficult to obtain any valuable information, by penal enactments,

which cannot better be obtained by appeals to their professional pride in behalf of sanitary science.

In the city of Providence, all cases of smallpox and varioloid, are promptly reported by physicians to the Superintendent of Health, and I have no doubt that reports of other diseases could be obtained, if requested.

Whatever system of registration may be adopted in a city, its efficiency, and the importance of its results to the community, will depend, to a very great extent, upon the officer who is intrusted with its management.

The Registrar should be a well-qualified physician, familiar with, but not engaged in, the practice of medicine. No one but an intelligent physician can be qualified to perceive and correct the errors and blunders so frequently found in the returns of deaths, and most certainly the analysis of these returns, and the application of the knowledge obtained to the prevention of disease, require a medical education, and afford an ample and interesting field for the exercise of medical talent.

I have thus attempted to state the general principles relating to a system of registration of births, marriages, and deaths, with particular reference to cities, and have, designedly, endeavored to show the general principles relating to the subject, rather than to enter into particulars which could have only a local application, and which must be changed to meet the peculiar wants, laws, and customs of different communities.

In the Appendix will be found a more specific expression, in the form of an ordinance, of a few of the principal features of the system of registration proposed in this report, and also a specimen of the blanks for returns which seem to me to be best adapted to obtain the objects desired. The blank for returns of marriages is given in accordance with the laws of Rhode Island, as this seemed to me to be more useful, at the present time, than the form of a contract as recommended in the preceding report,

A P P E N D I X .

[The following portions of an ordinance are based upon the supposition that the State Legislature has conferred upon cities the power to make ordinances upon the subject, and that it has also made all necessary laws for the regulation of marriages and for preserving the record of them. The ordaining clause and other particulars must be changed to meet the wants and customs of each city.]

AN ORDINANCE in Relation to the Registration of Births, Marriages,
and Deaths.

It is ordained by the City Council of the City of as follows :

SECTION 1. A City Registrar shall be appointed by the Board of Health, who shall be a well-qualified graduate in medicine, and who shall hold his office for the term of years from the first day of January next after his appointment, unless sooner removed by the Board of Health.

SECTION. 2. It shall be the duty of the City Registrar to keep a faithful record of all the births, marriages, and deaths in said city, in accordance with the laws of the State, and in accordance with such regulations, consistent with such laws, as may be made from time to time by the Board of Health.

SECTION 3. It shall be the duty of the City Registrar, semi-annually in the months of January and July, to obtain by a census from house to house, and to record, the information required in relation to all the children in the city who have been born during the six months next preceding.

SECTION 4. The City Registrar shall furnish to the Board of Health, at any time, such information as they may require in relation to the returns of deaths, or any other subject connected with the duties of his office. He shall also, annually, in the months of January or February, prepare a report in relation to the births, marriages, and deaths in the city, during the year ending with the thirty-first day of December next preceding, with such tables and observations as he may deem important, and as may be required by the Board of Health.

SECTION 5. The Board of Health may appoint a sufficient number of qualified physicians as Assistant Registrars, in each ward of the city, whose duty it shall be, as hereafter provided, to grant permits for the burial of the dead, and to make an examination in cases where no physician's certificate of the cause of death can be obtained.

SECTION 6. No person shall bury, or place in a tomb, or remove from the city for burial, or otherwise dispose of the dead body of any human being who shall die in the city, without a permit first had and obtained from the City Registrar, or from one of the Assistant Registrars.

SECTION 7. No permit shall be given as provided in Section 6, until the Registrar or Assistant Registrar is furnished with the information required for record in relation to the deceased person, so far as the same can be ascertained, together with the attending physician's certificate of the cause of death, whenever it can be obtained, or a coroner's certificate whenever a coroner's inquest has been held. Whenever a permit for burial is applied for in a case of death without the attendance of a physician, or if it is impossible to obtain the physician's certificate, it shall be the duty of the Assistant Registrar in the ward in which the death occurred, to visit and view the body of the deceased person, and to make all necessary inquiries respecting the death, and when he has obtained satisfactory evidence in relation to the cause and circumstances of the death, he shall sign the certificate, and give a permit for burial. If not satisfied in relation to the cause and circumstances of the death, or if, in his opinion, the public good requires it, he shall report the case to a coroner for investigation.

SECTION 8. Whenever a person shall die in the city under the care of a physician, it shall be the duty of the physician attending in his or her last sickness, to furnish to the undertaker, when requested, a certificate, giving the name of the person, the date of death, and the disease or cause of death.

SECTION 9. No person shall carry on the business of an undertaker, or bury, or place in a tomb, or remove from the city for burial, the dead body of any human being, without a license first had and obtained from the Board of Health, and the Board of Health shall have power to revoke and annul any such license at their discretion.

[There are many other items which would be necessary for a complete ordinance upon the subject, the precise nature of which would depend upon the local circumstances and wants of each city. Some of these are the following: the salary or fees of the City Registrar, and of the assistant registrars, the employment of clerks, provisions for the preservation of the records, penalty on physicians and undertakers, and a statement of the items of information to be obtained. I would also recommend that a small fee be allowed to undertakers for making returns of death.]

RETURN OF A BIRTH.

WARD VIII.

CITY OF PROVIDENCE.

-
1. Date of Birth?.....July 4, 1860.
 2. Name of the Child?.....James Jackson Johnson.
 3. Sex?.....Male.
 4. Color?.....White.
 5. No. of Child of Mother?Sixth.
 6. Place of Birth, Street and No..No. 29 Carew Street.
 7. Father's Name?.....William Star Johnson.
 8. Father's Age?34 Years.
 9. Father's Occupation?Moulder.
 10. Father's Birthplace?Albany, N. Y.
 11. Mother's Name?Mary Jane Johnson.
 12. Mother's Maiden Name?Mary Jane Jackson.
 13. Mother's Age?30 Years.
 14. Mother's Birthplace?Providence, R. I.
 15. Remarks?.....
-

MOTHER, *Informant.*

N. B. — At No. 2, give the full name of the child, and *be particular to get middle names in full.* At No. 4, state whether the child is white, black, or mulatto. At No. 5, state whether it is the 1st, 2d, 3d, &c., child *of the mother.* At No. 6, give the street and number, if in the city; the town and State, if elsewhere in the country. At Nos. 8 and 13, give the age at the last birthday. At Nos. 10 and 14, give the town and State, if in this country.

If the child was stillborn, or has died since birth, state the facts at No. 15, *with any other facts of interest.*

In case of twins or triplets, a separate blank is to be filled for each child.

RETURN OF A DEATH.

CITY OF —.

1. Date of Death?.....January 10, 1860.
2. Name in full?.....Louisa Fallon Marcy.
3. Age?.....33 Years. 4 Months. 18 Days.
4. Place of Death? } Street and No.....Percy Street.
5. " " " } Ward?8.
6. Sex?F.
7. Color?W.
8. Condition?.....M. — Wife of George.
9. Occupation?.....Housekeeper.
10. Where Born?Providence.
11. Father's Name?James Fallon.
12. Mother's Name?.....Louisa Fallon.
13. Birthplace of Parents?.....Fa. Ireland. Mo. U. S.
14. Where Buried?.....Vernon Cemetery.

JAMES FALLON, *Informant.*

N. B.—At Nos. 4 and 5, give the *place where* the person died. At No. 8, state whether married or single, widow or widower. At No. 13, state *the country* in which each parent was born.

PHYSICIAN'S CERTIFICATE.

Date of Death? January 10, 1860.
 Name? Louisa Fallon Marcy.
 Disease? 1. Primary. Consumption.
 " 2. Secondary. Pneumonia.

Duration of Disease? 1. 7 months. 2. 6 days.

JAMES HUNTER, *Physician.*

I certify that the above is a true return, to the best of my belief.

PHILIP WALLEY, *Undertaker.*

RETURN OF A MARRIAGE.

STATE OF RHODE ISLAND.

1. Full name of GROOM?.....William Rollins Hanson.
2. Place of Residence?.....Providence.
3. Age?34 Years.
4. Color?.....White.
5. Occupation?.....Machinist.
6. Place of Birth?.....Worcester, Mass.
7. Father's Name?.....Joseph Damon Hanson.
8. Mother's Maiden Name?.....Rebecca Mason.
9. No. of Groom's Marriage?....First.

-
10. Full name of BRIDE?.....Eliza Lacy Stone.
(Maiden name if a Widow?..Eliza Lacy Jones.
 11. Place of Residence?.....Seekonk, Mass.
 12. Age?.....32 Years.
 13. Color?.....White.
 14. Place of Birth?Providence.
 15. Father's Name?.....Martin Jones.
 16. Mother's Maiden Name?.....Lydia Harmon.
 17. No. of Bride's Marriage?....Second.

N. B. — At Nos. 4 and 13, state whether white, black, or mulatto. At Nos. 9 and 17, state whether 1st, 2d, 3d, &c. marriage of each.

PROVIDENCE, R. I., June 14, 1860.

We, the Groom and Bride named in the above certificate, hereby certify that the information given is correct to the best of our knowledge and belief.

WILLIAM R. HANSON, *Groom.*

ELIZA L. STONE, *Bride.*

Signed in presence of HENRY VARS,
and MATILDA WHITING.

N. B. — The above blanks must be filled, and the certificate must be signed by both Groom and Bride, and must be given to the person about to solemnize the marriage, before the marriage can be legally solemnized in the State of Rhode Island.

CERTIFICATE OF MARRIAGE

STATE OF RHODE ISLAND.

I *Hereby Certify*, that *William F. Hanson* and *Eliza Lucy Stone* were joined in Marriage by me in accordance with the laws of the State of Rhode Island, in The City of PROVIDENCE, this fourteenth day of June, A. D. 1860.

Attest: *William M. Bergen,*

Rector Saluaty Church.

WITNESSES TO THE MARRIAGE:—

Elisha Hanson.

Persis C. Dalton.

N. B.—The Clergyman, or other person solemnizing the marriage, is required to sign this certificate, and return it to the Clerk or Registrar of the town or city in which the marriage takes place, *on or before the second Monday of the month succeeding the date of the marriage.*

The laws of Rhode Island require at least two witnesses to be present at a marriage, in addition to the parties and the clergyman officiating.

THE
UTILITY AND APPLICATION OF HEAT
AS A
DISINFECTANT.

BY ELISHA HARRIS, M.D., OF NEW YORK.

APPENDIX C.

THE UTILITY AND APPLICATION OF HEAT AS A DISINFECTANT.

THE UTILITY AND APPLICATIONS OF ELEVATED TEMPERATURES, BY STEAM OR BY DRY HEAT, AS MEANS FOR THE IMMEDIATE AND EFFECTUAL DISINFECTION OF PESTILENTIAL FOMITES, INFECTED VESSELS, AND CONTAMINATED APARTMENTS.

THE various applications of fire are among the most ancient and common methods employed for destroying specific infections, and for purifying contaminated places; but the practical objections to any destructive methods for disinfecting febrile *fomites* must naturally prevent them from being extensively adopted or faithfully applied as hygienic measures, except in rare cases and under the strictest police surveillance; and however effective may be the direct applications of fire or conflagration for the general purposes of disinfection, the following obvious objections preclude their utility and forbid their general adoption:—

1. The absolute loss of all the materials that are subjected to an incinerating or carbonizing heat.

2. The difficulty of concentrating deleterious miasmata and the atmosphere of contaminated places so as to subject them successfully to processes of combustion.

3. The excessive cost of maintaining fires for the purposes of the local disinfection of a contaminated atmosphere.

This last-named objection applies especially to what has popularly been supposed the readiest and cheapest method for disinfecting the pestilent gases of sewers and all large *cloacæ*; but not to domestic latrines and closets, nor to the deleterious gases of manufactories. On this subject Dr. Lethby remarks, in his interesting Report on Sewer Gases: “The value of *fire* as a disinfectant was known and has been recognized since the remotest times. . . . Powerful, however, as the agent is, it does not appear to be applicable to the destruction of sewer gases. . . . The cost of fuel for the furnaces (for the sewers of London) would not be less than £80,000, and perhaps it might reach to upwards of £200,000.”

Without recounting in detail the legendary story of pestilent atmospheres and contaminated places disinfected by the fires that Em-

pedoeles, Aeron of Agrigentum, or Hippocrates himself directed to be kindled, and which were accompanied with such apparently successful results as led Pliny to say "*Est et ipsis ignibus medica vis*;" and without discussing the difficulties and doubts that have always characterized the various plans for disinfection, — it is the object of this paper to elucidate those feasible, economical, and safe applications of heat as a disinfectant, which by their simplicity, obvious practicability, and extensive utility, shall serve to commend this subject to the careful attention of all persons who are interested in measures for protection from, and the removal of, pestilential infection, whether of domestic or of exotic origin.

It should here be stated that the writer's attention was first drawn to the practical consideration of this subject by the responsible duties that devolved upon him as the chief officer of the New York quarantine hospitals during the prevalence of yellow fever and various infectious and contagious diseases then provided for at that establishment. The results of investigations then commenced, fully warrant the statements that follow in this paper.

In the able Report by Dr. Van Bibber, on Disinfectants, it is truly stated that "a disinfectant for yellow fever is a desideratum." The vast practical importance of discovering or inventing some reliable and practicable method for promptly destroying the virus of yellow fever and every other pestilential infection which is capable of being conveyed and propagated by ships is very forcibly presented in the statement of Dr. Van Bibber's *tenth proposition*. "*Prop. X.* The admission and knowledge of the fact that no disinfectant for diseases of this class exists, are at once the origin and the cause of the continuance of quarantine."

It is sufficiently manifest that if we were able to devise a simple and practicable method for absolute disinfection of the sources of pestilential diseases, the more onerous exactions of quarantine would speedily be set aside. But there are other and not less important considerations which render such a desideratum highly desirable; the welfare of the sick and the safety of all persons who may be exposed to either the exotic or the domestic *fomites* of pestilential maladies call for such methods of immediate and positive disinfection, while by the same means it might reasonably be hoped that the progress of such diseases, whether indigenous or imported, would be effectually arrested by the civic authority immediately upon their first appearance or localization.

The practical importance of such means for disinfection will be best appreciated by reflecting upon the immense tax that quarantines inflict upon commerce on the one hand, and on the other, by investigating the history and searching out the favorite *foci* of fevers in our cities and our hospital establishments.

Believing that the great desideratum of such a practicable and ready method of positive disinfection may be attained, we now propose —

1. To examine the evidences of the disinfecting power of high temperatures.
2. To institute inquiries respecting the minimum degree of steam or dry heat that may be relied upon for the purposes of disinfection.

3. Inquire respecting the highest elevation of temperature that various textile fabrics and staples, and the ordinary apartments and furniture of naval and domiciliary or hospital structures, may safely endure for the brief periods required for effectual disinfection.

4. Explain and illustrate the proper methods of applying both steam and dry heat for various purposes of effectual disinfection.

First. The Evidences of the Disinfecting Power of High Temperatures.

As we desire to be understood to advocate the application of heat at temperatures compatible with the preservation of ordinary textile fabrics and such other destructible materials as are liable to become *fomites* and carriers of pestilent infection, it is proper that we should take, in evidence of disinfection, only such cases as have afforded reliable results, with known or limited increments of temperature. It is manifestly necessary that the degrees of heat resorted to be considerably below those temperatures that induce combustion, or even the slightest degree of carbonization. It will be borne in mind that the temperature of common flame is about $1,140^{\circ}$ F.; red embers about 980° F.; boiling water 212° F., and the lowest scalding heat at 150° F., and upwards; while dry vegetable tissues, as ascertained by M. Violette, enter upon the first stage of carbonization at a temperature of 150° centigrade, or 222° F.; ovens bake at from 320° to 400° F.; sulphur ignites at 560° , cane sugar melts at 320° , and liquid albumen coagulates at 145° F.

Though it might not be improper to indulge in some reasoning *a priori* in the investigation of a subject like this, it is, perhaps, best that we depend solely upon the tests of experiment and the results of experience, in the argument pursued in this paper, which is designed solely for practical objects and the promotion of immediate and specific improvements in quarantine and hospital hygiene. But we cannot forbear noticing such strikingly suggestive facts as the following, viz: that all vegetable life is extinguished at a temperature far below that of boiling water, and that animal and organic life generally is destroyed by a comparatively brief application of heat that coagulates albumen,—that is, at about 145° F.; that all kinds of fermentative catalysis cease at a temperature below that which coagulates albumen; and, in short, that by the agency of an elevated temperature all processes and conditions in nature that bear any analogy to the incubation, propagation, and effects of pestilent infections, are arrested, controlled, or so modified as to warrant the inference at least, that all infections which are transportable, and all *fomites* of infection, might be rendered inoperative by means of high heat. Yet, until experiment or varied experience has demonstrated the practical truthfulness of this inference, we must appeal to rigid facts and observations.

The first and most commonplace fact which has been incontrovertibly established by experience, is this,—that in all places, and under widely varied circumstances, the boiling or the steaming of infected clothing has invariably proved to be an effectual means of disinfection; while in progress of the same experience, in almost every hospital or private washroom for such contaminated clothing, has been taught the

sad lesson that the process of simple washing, *previous to boiling or steaming*, is very hazardous work to the persons engaged in it. This we regard as an important element of evidence, derived from *common* experience wherever typhus, smallpox, scarlatina, or the exotic *fomites* of yellow fever have been exposed in washhouses or storerooms. We need not encumber this paper with narratives of particular instances illustrating this subject. Such instances are familiar to most persons who have observed the progress of infectious fevers in cities and large towns.

The special experience—some of which has been experimental—connected with certain public hospitals, may here be referred to, and although the amount of actual experimental experience is yet very meagre, it is highly instructive, and strongly corroborates the opinion that moderately elevated temperatures may be universally applicable for purposes of disinfection.

First, and perhaps the most conclusive of any single record of experiment and direct experience, we would mention the instances recorded by Dr. Von Busch of Berlin. That gentleman carefully narrates the history of a fatal epidemic of puerperal or childbed fever occurring in the Berlin Lying-in Hospital, during the months of February and March, 1851, and which obstinately clung to the wards even after a most thorough cleansing of the establishment. Again, for the preservation of their lives, the inmates of the institution were removed. Seeing the utter inutility of all the efforts that had been made to eradicate that domestic pestilence of the lying-in chamber, Dr. Von Busch then determined upon heating all the wards, for a brief period, to a temperature of 150° F. or upwards. In all the wards he steadily maintained a dry heat of from 52° to 60° Reaumur, during two consecutive days; all the beds, wardrobes, and hospital utensils being retained in the wards. The result was triumphant. The wards were immediately reoccupied with the same class of patients as before, and having the same individual liabilities to puerperal fever. But the pestilential infection had been completely banished and annihilated from the wards, and now the inmates of that maternity hospital lived to rejoice in the fruit of their labor.

Here was demonstrated the interesting fact that one of the most pestilential, persistent, and dreaded types of febrile infection was speedily and effectually eradicated by simply elevating the temperature of the infected apartments to 149°—167° F. by means of common stoves.

The value of this record is enhanced and its practical lessons confirmed by the recurrence of similar events in the same institution during the subsequent winter, when the same fearful malady again made its appearance there, and was as promptly and effectually driven from the wards as in the former instance, and did not reappear for a period of more than six months.*

No physician, who is familiar with the nature and habits of the puerperal infection will doubt the evidences here presented of the dis-

* See the "*Neue Zeitschrift für Geburtskunde*," p. 313, Berlin, 1852. See also, on the same subject, some remarks by *M. Paul Dubois, M. D.*, in the *Gazette des Hôpitaux*, 1853; also, in the *Bulletin de Thérapeutique*, Nov. 1853.

infecting power of dry heat in the wards of the Berlin Lying-in Hospital. Other means *might* possibly have been successfully applied to the accomplishment of the same end, but none so certainly or so economically. Thorough cleansing and natural ventilation had failed to free the wards from infection, and that is precisely what has again and again occurred in typhus, and in smallpox wards, and in apartments, houses, and ships contaminated with yellow-fever infection.

It is conceded that the puerperal infection is a perfect analogue of, if it is not exactly identical with the virus or infection of typhus, erysipelas, and hospital gangrene.* Hence we may justly infer that apartments or wards which have become infected with those maladies may be as readily disinfected by heat as were the wards of the Berlin Maternity Hospital.

The vast practical importance of some prompt and effectual method of disinfection from the local contamination of typhus, erysipelas, hospital gangrene, and all other febrile poisons in our hospitals, and in all apartments or places that become *foci* of infectious maladies, is so obvious that we cannot doubt that any such method, when shown to be practicable and safe, will be generally adopted by hospital physicians and sanitary officers.

The frequent recurrence of hospital gangrene, typhus, erysipelas, and puerperal infections in hospitals; the fatality of their operation; and their obstinate and insidious persistence in wards and sick-rooms, are events too painfully familiar to medical men. Even in the admirably conducted New York Hospital, on Broadway, we have known the infection of typhus or ship fever to linger persistently for days and weeks, in the frigid temperature of winter, with all the windows and doors widely open, after complete evacuation and the most thorough scrubbing, whitewashing, and renovation.

But to the proofs of the disinfecting power of an elevated temperature. It must be confessed that the cases that can be quoted as proofs are yet too few to afford the requisite conditions for satisfactory demonstration of the proposition we seek to establish in this paper. Yet we have a variety of facts to present, which afford very strong cumulative evidences of the universal applicability and the complete efficiency of heat for purposes of disinfection. And such is the value of these evidences and the vast importance of a practical application of such knowledge to sanitary works wherever there exist *fomites* or *foci* of febrile infection, that the writer of this paper deems it to be his duty to present all the reliable facts he has been able to gather, and he would present them in the light in which he has viewed them, even at the risk of being thought too hasty in his deductions.

Before proceeding to record the results of the direct experiments and special observations, which will tend to confirm those of Dr. Von Busch, and establish the truth of the proposition here advanced, the results of the writer's personal observations and experience may here be inserted.

During a protracted and instructive experience in the superintend-

* See an Essay on the *Causes and Propagation of Puerperal Fever*, by Prof. Joseph M. Smith, of New York, in the *New York Journal of Medicine*, Sept. 1857.

ence of the New York Quarantine Hospitals the following significant facts were noted.

During a period of nearly fifty years, the washing and drying of the contaminated clothing from hospital patients and infected vessels had been performed in the ordinary way without the use of steam. The diffusion of fatal fevers from those *fomites* of infection was notorious during that protracted period. Immediately after the introduction of steam-tubs for boiling, and a steam-heated chamber for drying the clothing, and obviously as a result of those improvements, the occurrence of infectious or quarantine diseases among the washerwomen of that establishment ceased,—or at least they occurred but very rarely, and then from sources to which the steam heat had not been applied.

Early in the summer of 1856, when large quantities of dunnage were ordered to the washhouse from vessels infected with yellow fever, I ascertained that the two washerwomen who were attacked with that malady had been handling and washing various articles of clothing previous to steaming or boiling them. Though those unfortunate washers might have contracted the fever elsewhere than in the wash-room, it was deemed expedient to use greater precautions against infection, and accordingly directions were given that all clothing, both from ships and hospitals, should be steamed in the closed tubs previous to being distributed to the washers. Infected dunnage and clothing continued to be received in large quantities for several months subsequent to that order, but no more cases of yellow fever occurred among the washers.

Again, in the summer of 1859, a floating hospital was placed under my superintendence for the reception and care of all cases of yellow fever and other pestilential diseases arriving at the port of New York. The practice of burning all dunnage, bedding, and other clothing from infected vessels having obtained favor with the authorities who witnessed the same expensive and unsatisfactory process applied to the entire quarantine establishment, it had been advised that a like summary method of purification be continued in connection with the hospital ship,—the famous iron scow for the burning of infected ships' clothing, bedding, and dunnage, being still in existence. Accordingly, no apparatus or provision of any kind had been placed on board for the cleansing or for the reception and proper care of infected ships' clothing, nor even for the washing and preservation of the clothing of the patients and their bedding. The hospital ship had already been placed at the yellow-fever anchorage,—twenty miles from the city,—and was awaiting the arrival of the sick with fever. Under these circumstances a washroom was, under my direction, hastily extemporized,—furnished with a copper steam-generator and capacious steam-vats, steam wash-tubs, etc. This apparatus was placed in one of the galleries that had previously been constructed upon the outside of the vessel amidship, and to the after end of each of which, entrance was made by the gangway outside, both from boats and the wards.

Into the steam-vats was thrown every infected thing received from vessels, as well as all hospital and patients' clothing, etc., that required

cleansing. All articles from infected vessels were received directly into the steam-chamber, from boats, without entering the ship itself, or in any manner exposing it or its inmates to the danger of infectious contamination; while in the wards of the hospital, a like safe regulation was adopted, requiring every article, as soon as soiled, to be removed to the steam-vats; and there all substances capable of being febrile *fomites* were instantaneously heated to the boiling point, or even a higher temperature. It will be observed that these arrangements contemplated the preservation of both the clothing and the wards from becoming *fomites* or *foci* of infection.

The prediction having been reiterated by many persons that the hospital ship would certainly become infected, and be in itself a focus of pestilence, we are happy now to record the fact that with twelve cases of yellow fever, and with twelve cases of other maladies far more liable to personal or fomite communication, there was not an hour of sickness among all the employes of the Floating Hospital during the six months it continued in service, though the washerwomen and ten of the other employes had never suffered from yellow fever, and had no specific protection from any disease except smallpox.

It is admitted that such limited and imperfect observations necessarily fail to answer the requirements of rigid demonstration, but they certainly go to augment and corroborate that cumulative evidence by means of which an absolute demonstration is to be eventually effected.

There have been instituted at various times and for different purposes certain experimental tests of the efficiency of heat as a disinfectant, that, like the experiments of Dr. Von Busch, have furnished results which are quite as instructive as those witnessed in the Berlin Maternity Hospital.

Some time ago, when engaged in an investigation of the history of efforts for the improvement and relief of quarantines, I was led to examine some very interesting and valuable papers by the late Wm. Henry, M. D., F. R. S., of Manchester, a successor and biographer of the distinguished Dr. Priestley. Dr. Henry's writings on this subject were based upon special and ingenious experiments and inquiries instituted by him as early as the year 1824, and the results of which were communicated to the Philosophical Magazine in the years 1831-32.

By a series of scientific inquiries and most reliable and exact experiments that learned gentleman attempted to determine,—1st, what elevation of temperature “cotton and other substances likely to harbor contagion” of the plague or typhus might sustain without injury,—the heat being applied both to the raw staples and to their various fabrics;—2d, by the application of the proper tests “that in at least some one unequivocal instance, contagious or infectious matter should be proved, by actual experiment, to be destructible at that temperature,” and which previous experiments had proved would safely be endured by the pestilent *fomites* for the time that should be requisite for absolute destruction of the febrile virus.

The experiments with material substances were extended to a considerable variety of articles, both raw and manufactured. The

lowing brief summary embodies the more important results of those observations and tests:—

1.—A quantity of raw cotton, subjected to a dry temperature, of 190° F. which was steadily kept up in the inner compartment of a double vessel heated by steam, during a period of two hours.

2d.—A quantity of cotton yarn, No. 40, subjected to the same process and temperature as the cotton staple.

Result.—The raw cotton became “fuzzy” on account of the loss of its natural moisture, and from the same cause the strength of the yarn was for the time impaired, but “after being left during two or three days in a room without fire, a great change had taken place in its appearance, and it was found, on trial, that the cotton was as capable of being spun into perfect yarn as that originally employed; on accurate trial of the twist which had been spun from it, a hank supported fully an equal weight with a hank of the same fineness that had been spun from cotton fresh from the bag. This fact, established by repeated experiments, proves that with the recovery of its hygrometrical moisture, cotton which had been heated, regains its tenacity, and becomes as fit as ever for being applied to manufacturing purposes.”

Dr. Henry then goes on to state that the “articles of cotton, silk, and wool, after being manufactured, both separately and in a mixed state, into piece goods, for clothing, were next submitted to the same treatment. Among them were several fabrics which were purposely chosen, of the most fugitive colors and delicate textures. After being exposed three hours to a temperature of 180° F., (dry heat,) and then left a few hours in a room without fire, they were pronounced perfectly uninjured in every respect. Furs and feathers, similarly heated, underwent no change.” In a subsequent communication, Dr. Henry states that he has since found that in most cases the temperature may safely be raised forty or fifty degrees higher than was used in his first experiments, thus allowing a dry heat of about 220° Fahr.

So much for the question of safety to the goods exposed to any degree of heat that might be required to purify them under any circumstances from pestilent infection. In another section of this paper we shall again refer to this subject, and offer several illustrations in confirmation these conclusions of Dr. Henry.

In our present inquiry, as well as in the experiments of the learned gentleman from whom we have just quoted “the most important point to be ascertained, and that on which the utility of the inquiry hinges, is whether a temperature below 212° Fahrenheit is capable of destroying the contagion of *fomites*.” With a clear apprehension of the intricacies and difficulty that must necessarily attend any reliable measures for determining this question, Dr. Henry commenced his first series of experiments for this purpose by various tests of the effects of heat upon the contagious element or principle of cow-pox. His tests were rigidly reliable, and by them he satisfactorily established the fact “that the infectious matter of cow-pox is rendered inert by a temperature not below 140° Fahrenheit; from whence it was inferred,” says Dr. Henry, “that more active contagions are probably destructible at temperatures not exceeding 212° F.” He justly adds, “This proposition it was obviously within the reach of experiment to determine.”

Acting upon this conclusion, Dr. Henry entered upon a series of wisely directed experiments and tests to determine the disinfecting power of heat upon the personal *fomites* of typhus fever and scarlatina. He made three experiments with personal *fomites* of typhus. Three flannel shirts taken on three successive days from a most strongly marked case of contagious typhus, were subjected to a heat of 204° F., for an hour and three quarters. These personal *fomites*, thoroughly charged as any garment could be, with the infectious or contagious principle of the fever, were put to the following tests: The first flannel jacket was placed directly under, and within twelve inches of, the nostrils of a person engaged in writing, and who was excessively fatigued from previous exercise and had observed an unbroken fast for eight hours; this test of exposure was continued for two hours. The second jacket, was worn next the body by a person for two hours; while the third jacket, after the exposure to heat, "was kept in an airtight canister for twenty-six days, with the view of giving activity to any contagious matter "which might possibly have escaped decomposition." It was then placed within twelve inches of the face of a person for four hours; "a gentle current being contrived to blow upon him from the flannel during the whole time." In none of these instances was the fever communicated, and no injurious effects were experienced.

Dr. Henry remarks that he does not lay much stress on so limited a number of facts; but it is our purpose to record all the more important tests that we have ascertained to have been instituted in illustration of the questions connected with the subject of disinfection by heat. We will therefore continue the narration of still further experiments by Dr. Henry, who certainly appears to have entertained very clear conceptions of the conditions required for a scientific demonstration of these vexed questions. It may here be stated that his first series of experiments — those relating to vaccine virus — were so conducted and varied as to afford the most absolute demonstration of the fact that a temperature of 140° F. renders the freshest vaccine material completely inert. The tests resorted to by that gentleman for typhus disinfection cannot, from the very nature and complexity of the conditions involved in the dissemination of typhus poison, be regarded as conclusive demonstrations; they are, rather, cumulative proofs.

Scarlatina was the third type of specific febrile infections that Dr. Henry subjected to his varied tests; and in that malady, he says, "we have a disease admirably adapted for furnishing the necessary evidence. No one doubts of its being infectious.* Perhaps, indeed, of all dis-

* Dr. Henry belonged to that distinguished class of men whose minds are trained in a more rigid school of inductive philosophy, than the class of medical dogmatists who reject at sight all evidence, logic, and fact, that may not chance to accord with their own theories and dogmas. Among the latter class are those physicians who summarily reject all evidence respecting febrile infections, and boldly declare that "scarlatina, typhus, puerperal fever, etc., are no more infectious than a common cold." Dr. Henry believed in both the mediate and the immediate communication of typhus and the exanthemata.

eases with which nosologists have arranged it (the *exanthemata*), it gives birth to the most active and durable contagion. . . . In the state of *fomites*, this species of infection has lain dormant for many months."

Having found a patient suffering from "*scarlatina anginosa*," Dr. Henry proceeded to institute the most reliable tests, by means of flannel waistcoats, and the persons of susceptible and delicate children that had not previously had the disease; and following up these experimental tests, he was favored with the opportunity of securing other waistcoats from three other young persons who, in succession, had been infected in regular sequence, by communication with each other.

The infected waistcoats were heated to a temperature of about 204° F., and, with the exception of two out of a large number, each was applied and kept immediately upon the person of some young and susceptible subject. Two of the garments were kept closely sealed up for several days, and, after being heated, were applied in a similar manner.

In none of these cases was the scarlatina communicated, or any effect produced, though the children were attentively examined every day, in order that no slight symptom might pass unobserved." In conclusion, Dr. Henry says: "The experiments which we have related appear to me sufficiently numerous to prove *that by exposure to a temperature not below 200° F. during at least one hour, the contagious matter of scarlatina is either dissipated or destroyed.*"

There are many reasons for believing that the activity of the typhus, scarlatina, or any other febrile infection may be entirely destroyed at a temperature far below 200° F.; but with the limited amount of positive knowledge we possess relating to this subject, it would justly be regarded as an act of criminal temerity for the medical inquirer and experimenter, even for the sake of the profoundest scientific discoveries, or for the probable future advantages to humanity, to expose any human being to the hazard of being brought *needlessly* near to the point at which it were believed that a fatal or dangerous febrile poison would be communicated. It is always easy to obtain a local temperature of 200° or 212° F. in any apartment or apparatus that would be required for disinfecting pestilent *fomites*; and, as was shown by Dr. Henry's experiments, with the various textile fabrics and their staples, they endure such a temperature without injury.

Though we have already extended this *résumé* of Dr. Henry's experiments much beyond the limits we had assigned for the purpose, we cannot forbear the following question, which he proposes:—

"The circumstances under which the experiments were conducted render it, I think, demonstrable, *that the disinfecting agency belongs to heat alone*;" (i. e. in these tests;) "for the receptacle in which the infected waistcoats were placed having in every instance been closed, change of air could have had no share in the effect. The phenomena, then, are reduced to their simplest form; and the results put us in possession of a disinfecting agent the most searching that Nature affords;—one that penetrates into the inmost recesses of matter in all its various states."

The writer of this paper commenced his inquiries without any definite knowledge of Dr. Henry's experiments, and after a partial investigation of the various questions connected with the problem of disinfection by heat or steam, the great importance as well as difficulty of direct experimental tests led him to examine very critically the records of such experiments, bearing upon the subject, as had been instituted at various times and for a variety of purposes; and although, now, after a protracted and somewhat thorough investigation of the various questions in science and experience connected with the subject, he feels prepared to announce his full belief and confidence in the disinfecting powers of elevated temperatures, it seems very desirable that further inquiries and tests should be instituted with reference to a more clear and popular demonstration of the conditions, means, and special applications of heat, required for the more common purposes of disinfection. And it should here be stated that the main design of the writer in presenting at this time the views embodied in this paper, has been particularly to invite such attention, inquiry, and practical tests, from various quarters and by such persons as will most satisfactorily establish the facts of the practicability and general utility of the methods of disinfection herein proposed.

If it can be demonstrated that a temporary application of heat, either by steam directly applied, or by heated air, at any temperature not higher than 212° F., will certainly and effectually disinfect all varieties of pestilent and febrile *fomites*, and contaminated apartments, then it may safely be asserted that the time is near when such *fomites*, and the apartments of infected vessels, hospitals, and infectious fever-chambers, or pestilential *foci* and *fomites* of every class will be systematically and effectually disinfected by some ready method of applying such degrees of heat as may be required.

It is not to be supposed or desired that heat will be a substitute for thorough ventilation, cleanliness, and hygienic regimen; but that its applications will be resorted to when and where those essential measures of hygiene are insufficient for the removal of localized febrile infection. The localized infectious cause of yellow fever in material substances, in domiciles, or in ships; the inhering poison of puerperal, typhus, and other specific infections in hospital wards and close sick-rooms; and the immediate and safe disinfection of pestilent *fomites* of every class, require such an easily applied, controllable, and permeating agency as an elevated temperature for their purification.

It has long since been shown, by greatly varied experiments and innumerable incidental observations and tests, that none of the chemical disinfectants can be relied upon except as deodorizers, and as adjuvants to ventilation and cleansing. The *chlorides* and the *man-ganates*, even, fail of answering the conditions required for the immediate and absolute disinfection of pestilent *fomites* and contaminated apartments.

If heat is proven to be an effectual disinfectant at about 200° F., then its superiority is demonstrated beforehand; for it is susceptible of ready application to every inanimate thing that is liable to imbibe

or convey specific pestilential virus; and this, even to the richest saloons,* the closest apartments, and the most hidden and inaccessible portions of any vessel or warehouse. In the practical applications of heat we have an agency the most searching that Nature affords; and, as remarked by Dr. Henry, "one that penetrates into the inmost recesses of matter in all its various states."

It is true that there may be found some practical difficulties in the application of hot air or dry heat in certain inaccessible places of a vessel, and to certain materials that possibly might imbibe febrile poison; but in all such cases and for all such materials, *steam* may safely be resorted to, and with very great economy, dispatch, and satisfaction. By virtue of the almost unlimited expansive property of high steam, together with its remarkable property of latent heat,—estimated at about 1,000° F. when at its ordinary temperature of boiling water,—this subtle and elastic element readily conveys and inflicts a scalding heat wherever it is allowed to escape into closed apartments, while by its properties of latency and almost infinite expansiveness it will penetrate, more certainly and effectively than any other agent can, every porous substance and the most hidden and intricate openings or crevices where infectious poison might possibly be localized.

It is to be regretted that the utility of steam or heat in some other form has not been experimentally and extensively tested on board infected vessels and in contaminated apartments; for it is in such vessels and apartments the question of the applicability of heat to the practical purposes of disinfection may most satisfactorily be demonstrated. All admit—contagionists and non-contagionists alike—that pestilent febrile poisons may not only be generated in foul ships, and there become endemial, but that an endemic cause of certain maladies is liable to become obstinately fixed and perpetuated in such places; while, on the other hand, the questions relating to *fomites*, so-called, may forever remain *sub judice*, or, at least, subject to doubts. As, in a somewhat extended reading of nautical medicine, we have met with no very satisfactory instances of the application of heat to purposes of disinfection in ships, we wait with interest, but with little doubt, the practical and triumphant results of this mode of purification.

The writer last year suggested to the Quarantine Committee of the New York Chamber of Commerce the propriety of instituting direct experiments with heat in vessels known to be contaminated. The proposition was received with favor, and it is hoped that it may yet

* The injuries liable to be produced upon various rich goods or in nicely furnished apartments by particular increments of heat, whether by steam or dry heating, may readily be estimated beforehand. In no case could it ever be required to raise the temperature to the degree that produces carbonization, which, as M. Violette has shown, does not even commence at a point lower than 222° Fahrenheit. The accidental application of scalding steam to the costliest furniture and upholstery of the rich saloons, in steam vessels, has too frequently demonstrated that the steam-heat which instantly destroys animal life, leaves those gorgeous apartments and their furniture comparatively unharmed.

be acted upon by that distinguished and public-spirited body. The opportunities for such experimental tests in naval disinfection are often presented in the port of New York.

The most striking instance of the supposed disinfectant effect of heat in a badly infected ship was many years ago narrated by the distinguished Dr. William Ferguson, at that time Inspector General and Chief Medical Officer in the Leeward and Windward Islands. It is to be regretted that the particulars of the case are not fully recorded, but in the official documents accompanying Dr. Ferguson's communications to the Royal Medico-Chirurgical Society, (See vol. viii. of the *Royal Med. Chirurg. Trans.*) the following extract appears from the evidence then taken respecting the occurrence of yellow fever on the transport ship "*Regalia*," in which that fever had become endemic, and prevailed with frightful mortality. The record states "that whilst at English Harbor she underwent fumigations as ordered by Commissioner Lewis, without the least effect in arresting future attacks or their fatality; and that it was not until after her arrival in Carlisle Bay, where she *was completely cleared, and with her hatchways closed, her whole hold exposed to the concentrated heat of many stoves, that fever ceased.*"

Whether this happy and immediate disinfection of that unfortunate transport was effected solely by the high degree of heat to which every compartment of the vessel was subjected, we will not attempt to determine; but the facts in the case are very suggestive of the positive utility of heat in such cases. And before dismissing this topic, we desire to solicit the contribution of any facts that may have been observed, or that are known to any gentleman connected with naval or mercantile marine service, or that may have come to the knowledge of others into whose hands this paper may fall.*

* The following interesting and suggestive facts were elicited by the discussion of this paper in the Convention.

BROOKLYN, N. Y., July 10, 1860.

MY DEAR DOCTOR: I cheerfully comply with your request to give you a circumstantial account of the instances I mentioned in our discussions upon your paper, in Convention at Boston, in illustration of the disinfectant properties of steam for yellow fever.

While I was an Assistant Surgeon in the Navy, and during the epidemic of yellow fever which prevailed in the U. S. Naval Squadron, in the vicinity of Vera Cruz, during the summer and autumn of 1847, the U. S. steamer "*Vixen*" was one of the earliest and one of the worst-infected vessels of the squadron. This vessel had done a good deal of river and coast service, was filthy and infested with cockroaches and rats. I was ordered to the "*Vixen*," from other service in the squadron, in the early part of December, and there had charge of the latest cases of yellow fever during that season of the epidemic. During the winter season, while the "*northers*" prevailed, there was a cessation of yellow fever, though we continued to have a large sick list composed of tedious convalescents and frequently recurring febrile complaints. On the return of hot weather, in the following May, (1848,) there being no immediate prospect of our going north, and in anticipation of an early return of yellow fever in our then fitting condition, it became expedient to "break out," as far as practicable while on service, and paint ship. Before undertaking this, the commander, James H. Ward, Esq., resolved on a final effort for the extermination of the vermin, by steam. Everything susceptible of injury was taken on deck, the hatches closed and steam turned in below decks. This was kept up for two or three hours, and with

In the foregoing pages we have endeavored to present a practical view of the more important questions connected with the subject of immediate disinfection by heat as a means of simplifying and facilitating the necessary operations of quarantine; and likewise as a means peculiarly adapted to the destruction of all the domiciliary *foci* of infectious fevers. The practical importance and value of the full attainment of such a desideratum cannot well be over-estimated. Commerce alone would be benefited to the extent of many millions in a single port like that of New York, during a year when yellow fever prevails;

such a bead as to completely permeate every crevice. After steaming, there was a thorough scraping, whitewashing, and painting. From this time forward there was a decided improvement in the health of the crew; — *no more fever cases occurred.*

About a month subsequent to the steaming of the "Vixen," the gun-boat "Mahones" Commander W. D. Porter, Esq., having been on a surveying expedition up the Tuxpan river, returned to the anchorage at the mouth of the river, and telegraphed for me to visit the sick. The "Mahones" had no medical officer. *There I found three cases of yellow fever, and, within a few days, four others.* The "Mahones" was a captured vessel; had never been off that coast; was filthy and infested with vermin. The salutary effects of the steaming on board the "Vixen," both for vermin and *fomites*, — no unusual associates, by the way, were so apparent that the same process was forthwith advised and applied, by means of the "Vixen's" engine, to the "Mahones," and, as in the first case, vermin and fever both ceased to live.

These vessels continued on service in the vicinity of Vera Cruz until the following August, when they both came into Norfolk, in the very height of hot weather. The "Mahones" was there laid up and subsequently sold; and the "Vixen," after remaining three weeks, without "breaking out," was transferred to the Coast Survey Service in the Chesapeake Bay for the remainder of the summer. In neither of these vessels was there any return of the fever.

About the same time that the "Vixen" and "Mahones" arrived at Norfolk, the frigate "Cumberland" and the steamer "Scorpion" arrived at New York. The "Scorpion" was at once put in quarantine on account of recent cases of yellow fever; and the "Cumberland," not having had any cases since the previous season, was, after a few days' delay, permitted to go up to the Navy Yard; but on the beginning the work of "breaking out," yellow fever also broke out on board, and she was ordered down to quarantine until cold weather. The "Cumberland" and "Scorpion" were from the same squadron with the "Vixen" and "Mahones," but more commodious, better ventilated, and in every respect in better condition for health, except that they *had not been steamed.*

Truly yours,

A. N. BELL, M. D.

E. HARRIS, M. D., New York.

The foregoing narrative is replete with practical suggestions and instruction, but to get the full force and significance of the facts Dr. Bell has so clearly stated, we need to take into consideration the fact that almost every other vessel than the "Vixen" and the "Mahones" became infected with the active cause of yellow fever. As was illustrated in the case of the "Cumberland" and the "Scorpion," that infection was all-pervading and remarkably persistent, even in the best class of the vessels then employed in the Gulf Squadron. The returning vessels from that squadron, which, during the later months were anchored with the "Cumberland" and the "Scorpion" at quarantine in the Bay of New York, diffused their pent-up pestilential miasmata to the shores of Staten Island with fatal effect. The application of steam in the two vessels mentioned, and the instant cessation of fever, together with its non-appearance after protracted service, could scarcely have been coincidences. The *post hoc ergo propter hoc* seems for once truly illustrated in those instances. We would invite particular attention to the simplicity and effectiveness of the methods adopted for the introduction of the steam in those vessels.

for in every instance of real or reasonably suspected pestilential contamination of any vessel or any number of vessels arriving in port, the time required for debarkation and storage of the cargo at the quarantine warehouses, together with the delay of the vessel in undergoing the process of disinfection by steam, and the subsequent preparation for sea, would not occupy more time than is required for healthy vessels under ordinary circumstances. It is universally conceded that, if any quarantine, or regulations in the nature of quarantine, are required for the public safety, then are special quarantine warehouses and docks required for rendering quarantine thoroughly effectual without serious embarrassment to commerce. Nothing could be more conclusive on this point than the statements made on this very subject in McCulloch's Commercial Dictionary. In connection with all such warehouses and docks, the requisite apparatus for generating and applying steam and dry heat could readily be supplied and kept in constant readiness.

The purpose of this paper does not require that the writer should enter into any specifications respecting the proper appliances and the exact methods to be resorted to for disinfection by heat. The experiments of Dr. Von Busch, in heating the wards of his hospital with stoves, and the trial of the same plan in the cabins and compartments of the transport ship "Regalia," together with the varied experiments of Dr. Henry, with dry heat, have fully demonstrated the feasibility of simple means for securing the required elevation of temperature for disinfection; while various experiments made with, and numerous explosive accidents from steam have sufficiently established the fact that almost any apartment or space in a house or a ship may be exposed to the scalding heat of steam without serious injury. On this point, as well as with reference to the absolutely scalding and life-destroying effects of steam suddenly injected into closed apartments, nothing could be more suggestive than the painful results of the bursting of steam cylinders, etc., in manufactories and steam vessels. But we need not enlarge upon this subject. It is not our purpose to arrive at final conclusions by means of hasty generalizations from such imperfect data as are now at our command. The writer desires to invite attention to the questions stated in this paper, and, if possible, elicit such experimental and scientific researches, as will lead to well understood and practically valuable results. Hidden and mysterious as the nature of pestilential miasmata and their modes of operation now seem to be, it is not improbable that experimental science may yet make us sufficiently acquainted with their strange phenomena to enable the human mind successfully to grapple with their subtle causes, or by scientific and ready applications, to overcome and destroy their deadly properties. But such desirable triumphs over the active elements of pestilential poison are not to be attained without patient efforts of research, observation, and experiment. The several experiments referred to in this paper, and the valuable reports of M. Tardieu, Muspratt, and Van Bibber give very decided indications of approach to the grand desideratum of a reliable and instantaneous method of disinfection for all transportable or *fometic* febrile poisons. The writer of this paper has ventured to express his firm conviction that, for practical purposes, an

elevated temperature, applied either by steam or by dry heating, will be found, upon trial, to afford the most effectual agency that can be employed for the purposes required at quarantine establishments, and for the disinfection of ships, hospital wards, and other domiciliary *foci* of infectious fevers, and for the purification of all pestilential *fomites*.

In the present imperfect state of scientific knowledge relating to the essential proximate causes of specific constitutional diseases, and the intimate nature and chemistry of febrile miasmata and their *modus operandi* in the production of fevers, it would be impossible to give a scientific solution of the problems connected with the processes of disinfection. It is true that most if not all of the disinfectants are *oxidizers*, some of them inducing the development of *ozone*; most of the chemical salts used as disinfectants serve to fix, neutralize, or recombine noxious compound gases; but in the absence of any evidence that the proximate or infectious cause of pestilent fevers consists in *substantive miasmata*, or in particular gaseous compounds, we are yet compelled to rely mainly upon such individual and empirical facts as have been or can be established by actual observation. Such are most of the facts relating to steam or heat as a disinfecting agency; though, as stated in a former section, there are many analogies so instructive and applicable that they may be taken into consideration in our reasonings and experiments regarding disinfection by heat.

The adoption of improvements in medicine and in art must not wait for the settlement of the exact questions and problems that physiological and pathological chemistry propose, for many a lance may be broken between scientific theorists and experimenters, ere an enduring philosophy is wrought out. The square of the hypotenuse had long been estimated, and its geometrical relations had long been applied to practical purposes in daily life, ere Pythagoras could offer a holocaust, in his gratitude and rejoicing at the discovery of a scientific solution of the facts so long applied by means of the legs and the hypotenuse of the right-angled triangle. The specific powers of *quinine* have been acknowledged and applied in all parts of the world since the first manufacture of that article by Pelletier and Caventou in 1820, but a strictly chemical or scientific demonstration and understanding of the *modus operandi* of that remarkable remedy has but just been commenced, and may not be satisfactorily established until forty years more have been spent in researches, experience, and experiment. So it may be with the chemistry and science of disinfection; we may not by *a priori* reasonings nor direct chemical study immediately find out the true interpretation of the phenomena and the facts that now invite our investigation.

Hitherto it seems to have been conceded that thorough ventilation is "an indispensable and potent auxiliary to disinfecting substances;" and it actually has always proved far more reliable and effectual than all chemical disinfectants. But we would invite attention to the fact that in the disinfection or destruction of the domestic *foci* of contagions or infections, as well as in the treatment of exotic infections, it is very desirable, oftentimes, to prevent any diffusion of the localized poison of pestilent disease, whether in apartments or in material sub-

stances. If heat is demonstrated to be a disinfectant, then it is peculiarly applicable to this important class of cases in which its powers are required. Beyond such purposes, it should not be proposed to extend its applications, and for all other sources of *febrile miasmata* we already possess reliable remedies and prophylactics.

In the statements contained in this paper, we have not deemed it expedient to enter upon the discussion of the question, "What constitute pestilential *fomites*?" nor have we attempted any new definition of the distinctive natures or the essential properties of infection and contagion, but the writer wishes to be understood as a rational believer in both infection and contagion; and in order that his statements and opinions may not be misunderstood or misapplied, he would here briefly enunciate, in his own language, what he conceives to be the simplest and most widely accepted definition of those much abused and ignorantly derided terms. It is the definition which we desire to have understood in the use of the terms in this paper. INFECTION is the contaminating or morbid impression and effect of a specific cause of disease, operating in or upon the living body, usually originating without the body, and being propagated independently of it; but in a few limited types of disease, that cause originates *within*, and is propagated *by* the animal system; diseases of the latter class are *contagious* as well as infectious. CONTAGIOUS diseases originate in, or are reproduced by the living body, and *can be communicated from person to person*.

In the language of Dr. Piekford, "*Contagion* may therefore be designated a specific virus originating *within* the body." But *infection* is a generic term, including a great variety of causes of disease. Some of those causes are transportable from place to place, and it is with such we have to deal at our quarantine establishments, and wherever there are *foci* of infectious fevers, — be they contagious or non-contagious.

The extent to which material substances are liable to become *fomites* or absorbers and enkindlers of specific diseases has never been very accurately defined; yet the general law regarding pestilential *fomites* appears to be this: that any textile or porous inanimate substance, not subject to active chemical changes, may, under certain circumstances of exposure, imbibe and retain for a time the proximate diffusible cause of certain infectious maladies; with but *few exceptions*, such transportable febrile poisons or infections are those that have been generated by *contagious* diseases.

There are but few instances known in which ordinary cargoes of merchandise have become in any degree contaminated so as to propagate or diffuse the cause of fevers. Indeed, it may safely be asserted that yellow fever, cholera, and the plague, are the only diseases known which are believed to be liable so to contaminate an entire ship as to render it expedient to institute quarantine restrictions against the importation of infection in such cargoes as arrive in vessels on board of which pestilential maladies have prevailed. But the multiplied evidences of the importance of quarantine restrictions for vessels and cargoes from ports where yellow fever is endemic,

render it necessary to devise some effectual method for the relief of ships and their contents from those delays which have hitherto been so embarrassing and injurious to commercial interests. The utility and application of elevated temperatures for the disinfection of vessels, dunnage, and the particular kinds of cargo that are liable to retain and diffuse the transportable cause or virus of yellow fever, is the subject that has elicited the investigations and arguments pursued in this paper. We have endeavored to state what is known and applicable, also what is uncertain but very desirable to be known, and what questions are, in the present state of human knowledge, beyond the reach of experiment.

As regards the utility of special disinfection to arrest Asiatic cholera, all is problematical, fresh air having hitherto been the only effectual disinfectant; but as simple ventilation may not actually destroy the propagating cause of cholera, it is desirable that means should be used for the immediate and complete arrest and destruction of at least all exotic infection of that malady, instantly upon its arrival at our quarantine stations. Indeed, it would be equally desirable to arrest or prevent the localization of that pestilence at its favorite haunts in the large towns in which it makes its earliest outbreaks; and for the accomplishment of such purposes, it may yet be demonstrated that artificial heat is the most reliable agent.

The Oriental plague is known to disappear under a moderately high natural temperature, and the fact is demonstrated beforehand that all germs of that terrible pestilence would be instantly rendered inactive by a temperature which could be readily and safely applied to anything that is liable to become the *fometic* carrier of the malady.

From the foregoing statements may be seen the objects which have prompted the preparation of this paper. Imperfectly and hastily prepared as it is, the author would hope that it may incite to accurate and practical observations and inquiry among gentlemen who enjoy the needed opportunities for prosecuting experimental investigations.

It must not be supposed that such investigations will require any very extensive and costly apparatus. Dry heat is attainable by means of stoves or coils of steam-pipe; and for direct steam heat a portable steam generator, sufficiently powerful to heat any ordinary apartment to 200° Fahr. can easily and cheaply be called into requisition; and for the instantaneous steaming of infected ships, the steam boilers of the more powerful steam-tugs about our harbors would, with the aid of a few simple appliances, be sufficient for such purposes.* However, it must be borne in mind that there should be entire *accuracy* of scientific observation in all the tests and applications of both steam and dry heat, even in the roughest trials of those methods of disinfection in ships or in hospital wards. This may be attained by a proper use of self-registering thermometers.

The application of heat to the disinfection of valuable goods should be so nicely attended to that no damage to the merchandise would be incurred, and at the same time no defect allowed in the process. Dr.

* See Dr. Bell's letter, p. 231.

Henry used a double-sided metallic chamber surrounded by steam or hot water ; but we apprehend that it may, in many instances, be found desirable to make a direct application of steam. In illustration of the fact that steam at a high temperature may be so applied to delicate materials with facility, and without damage to the articles, we will refer to a familiar and suggestive instance of its use in the preparation of silk cocoons. The facts are communicated, at our request, by a gentleman who recently visited the celebrated silk-reeling establishment of J. G. Scott, Esq., in the village of Shemlan, near the foot of Mount Lebanon, in Syria. In that immense establishment vast quantities of silk cocoons are received from the surrounding country, and in order to preserve them in a suitable condition for reeling, it is necessary to destroy the vitality of the *chrysalis* immediately upon the reception of the fresh cocoons at the depot. This is instantly effected by the application of steam in a scalding chamber, so constructed as to permit the ingress and egress of metallic wicker-work cars, upon which the cocoons are so arranged or stowed as to permit the immediate access of the steam, which is injected at will through the pipes that cover the bottom and sides of the chamber. By means of the railway arrangement, a constant succession of cocoon-cars are kept passing through that steam chamber, — each little cargo being detained and subjected to the steam heat in the closed chamber a few minutes, — for the destruction of the *chrysalis*, which each cocoon so snugly incloses in its impermeable envelope of compacted silken threads.

These nicely adjusted processes illustrate at once the effectiveness of steam as an agent or means for applying heat to inaccessible places, as well as to the most delicate materials, with entirely definite and satisfactory results, — as a destroyer of animal vitality. As the doctors would say, it answers all the requisites of a curative agent, — *tuto, cito, et jucunde*.

Whether it will ever be desirable or necessary to apply steam or heat by any means, to cargoes of cotton, woollens, etc., may be regarded as very doubtful; for, with a proper system of quarantine warehousing, such special disinfection need not be extensively resorted to, even if cotton and wool arrived in an infected condition. At the most, it might only be desirable to insure the disinfection of samples, — which could readily be effected.

In the case of *samples* infected with yellow-fever, and for certain articles or particular packages of merchandise, refrigeration would, perhaps, be the better method of disinfection ; but for typhus, cholera, smallpox, and the plague, cold would not answer the conditions of disinfection : Heat would answer all the conditions ; and fortunately we know of no articles of merchandise liable to become *fomites* for communicating the latter diseases, that might not safely and properly be subjected to steam heat ; while in the case of the ordinary cargoes from places within the yellow-fever zone, we know of no articles of merchandise liable to retain infection, — which might not be subjected to either heat or cold with equal impunity, and, so far as regards the virus of yellow-fever, with equal success. And it may

here be remarked, that same disinfecting chamber required for the process of disinfection by steam heat, would, with the simple addition of refrigerating tubes and plates, be perfectly adapted to the requirements of refrigeration. The conditions required for either process have already been fully demonstrated in various experiments for other objects.

The limits we had assigned to this paper will not admit of any further statements or illustrations. The writer's main design will have been accomplished if his suggestions are made to promote practical improvements in our means for controlling the *fomites* of infectious maladies. The aim has been, in all the foregoing suggestions, to propose practicable measures for insuring an absolute destruction of the pestilent property of all localized infection, without loss or damage to the materials or the apartments that retain the virus of disease, and also to propose a rational method for effectually disinfecting ships and all domiciliary *foci* of pestilent fevers.

No person can be more conscious than the author, that this paper but imperfectly answers the purpose for which it was designed. It bears its own impress of an effort to subsidize various elements of knowledge to purposes of public utility, — even before some of those elements have passed the crucible of rigid experiment and received the seal of scientific demonstration. Such as it is, the paper is submitted as a voluntary contribution to the good works undertaken by the National Sanitary and Quarantine Convention.

ELISHA HARRIS, M. D.

253 Fourth Avenue, New York,
June 12, 1860.

REPORT
ON
CIVIC CLEANLINESS,
AND THE
ECONOMICAL DISPOSITION OF THE REFUSE OF CITIES.
BY EGBERT L. VIELE.

Resolution, adopted at the third National Quarantine and Sanitary Convention, held in the city of New York, April 27, 1859:—

Resolved, "That a committee of six members be appointed, on Civic Cleanliness, with plans for the disposition of Offal, Refuse, Street-cleanings, and Nightsoil of cities."

* * * * *

Committee on Civic Cleanliness and the Economical Disposition of the Refuse of Cities.

CHAS. H. HASWELL, New York.

EGBERT L. VIELE, New York.

E. M. SNOW, M. D., Rhode Island.

HENRY GUERNSEY, M. D., New York.

HENRY IRWIN, Virginia.

OTIS CLAPP, Massachusetts.

NOTE.

The Report on Civic Cleanliness was prepared under a pressure of professional engagements which has rendered it necessarily brief. Nevertheless, it is hoped that enough has been said under each head into which the subject has been divided to attract the attention of every thoughtful citizen into whose hands the Report may fall; and if it shall have the effect to elicit from committees of investigation the facts which though now hidden will, when brought to light, more than confirm every word in the Report, the design of the author will be accomplished.

EGBERT L. VIELE, 13 Broadway.

NEW YORK, Dec. 7, 1860.

APPENDIX D.

REPORT ON CIVIC CLEANLINESS.

THE Committee on Civic Cleanliness and the Economical Disposition of the Refuse of Cities, appointed at the third session of the National Quarantine and Sanitary Convention, held in the City of New York, April 27, 1859, beg leave to submit the following Report.

The very comprehensive nature of the subject referred to the Committee would seem to open so wide a field of inquiry into all matters connected with the hygiene of cities, as to embarrass them in selecting the precise line of facts which they should present for consideration. Civic Cleanliness forms not only the groundwork but the superstructure of Sanitary Reform, comprehending as it does the removal of everything that is impure; and, therefore, to do entire justice to the subject, the Report should embrace nearly every question in sanitary science. In view, however, of the valuable reports submitted at the third session of the Convention (especially the report of Dr. John Bell on the importance of sanitary measures to cities), exhibiting so much research, and containing such an amount of information, drawn from the history and experiences of the past, the Committee feel that this report may, with propriety, be confined to a few practical suggestions with regard to the sources and the removal of those impurities which are manifestly the chief causes of mortality.

If there were a city whose natural position was perfectly salubrious, and whose artificial constructions were all completed and based upon the principles of sanitary science, that city might be said to be in a normal hygienic condition, that is, in a condition where the exercise of a proper degree of civic cleanliness would insure the health of the inhabitants. In order, therefore, to accomplish the full measure of sanitary reform in cities, it is necessary to bring them to this normal condition. To accomplish this, there are four leading subjects which demand attention in the order they are named, viz:—

1. *Drainage.*
2. *Paving.*
3. *Supply of Water.*
4. *Sewerage.*

When the municipality shall have completed these four necessary measures, and not till then, the responsibility for the health of the city rests upon the individual inhabitants; and a compliance, on their

part, with proper sanitary regulations, will undoubtedly secure an exemption from all preventable diseases.

The importance, however—the vital necessity—of carefully and thoroughly accomplishing the abovenamed four elements of a normal hygienic condition, cannot be exaggerated. Let us refer to them in detail.

I.—DRAINAGE.

Of the total number of deaths which take place annually, over the whole surface of the globe, nearly one half are caused by fever in its different forms. To this may be added the number who perish by diseases which originate under circumstances similar to those which produce fever.

It is a well-established fact that the principal cause of fever is a humid miasmatic state of the atmosphere, produced by the presence of an excess of moisture in the ground, from which poisonous exhalations constantly arise, vitiating the purer air, and carrying into the system of those who inhale it a virus which, if not sufficiently intense to produce fever, has such a disturbing effect upon the functions of some organ, or set of organs, as to weaken the general system, and act as a powerful predisposing cause of some of the most common and fatal maladies to which the human body is subject. It follows, as a matter of course, that the first efforts to improve the salubrity of any place whatever, must be directed towards preventing the aggregation of water in particular localities, and to remove such as has been allowed to collect.

In order to illustrate more clearly this subject of drainage, let us examine it in connection with a district of country where the surface is in a perfectly natural condition, unaltered or unaffected by any artificial improvements, diversified by hills and valleys, the elevations and depressions forming the water-sheds and water-courses by which the ground is partially relieved of the excess of rain which falls upon it.

The evaporation, which is constantly going on under the influence of solar heat upon the waters of the ocean and of the land, carries into the atmosphere large quantities of moisture, which, through changes of temperature, becomes condensed, and descends again upon the earth. But a small portion of that which is annually discharged from the clouds is necessary to vegetation or is absorbed by the ground. A portion of it passes off on the surface into the rivulets and rivers, and thence into the ocean. Another portion descends through the soil by the force of gravity, until it meets with an impermeable substratum, flowing along which it either accumulates in hollow basins, or diffuses itself through extensive tracts of subsoil, finding vent in the shape of springs; or by spreading itself over a large mass of soil, it saturates it as a sponge, rendering it unfit for cultivation, creating marshes and swamps, whence arise the malaria so destructive to health.

These are visible effects; but there is another condition by means of which this surplus water is rendered injurious to vegetation and to health. As soon as a portion of water is beneath the surface, it is

acted upon by capillary attraction in addition to the force of gravity, the tendency of which is to hold it in suspension, whereby the soil becomes soured and chilled by the evaporation, which carries the water off in the shape of mist, so that, in those sections of country where there is no evidence of marshes or swamps, the nature of the soil may be such as to render it extremely unhealthy. In fact, there are but few soils which do not require draining, both for agriculture and for health. If, therefore, such is the natural condition of soils, how much greater does the evil become magnified, when in the progress of civic improvements, we disregard altogether the natural outlets by which the soil became relieved of its surplus water, and by obstructing the drainage, add to the difficulty already existing.

The lines and direction of the streets are generally determined by other than topographical necessities, and consequently, it becomes necessary to remove the inequalities of the surface by levelling the elevations and filling the depressions, under the supposition that when the grading is completed, the artificial surface-channels will convey all of the water away; but such is not the case. The very material thrown into the hollows forms a nucleus for increasing the amount, and not only a larger quantity of moisture will be retained, but it will have added to it the drainings through the animal and vegetable refuse which accumulates in all large cities. Each year adds to the evil, until some dreadful epidemic shows itself in these very spots, and startles the community into a knowledge of their danger; the sense of fear, alone, accomplishing what their intelligence should have taught them, and they set about, perhaps too late, providing a remedy for their own recklessness. The older cities of Europe have had their bitter experience in this very matter. In the city of Glasgow, for the five years ending 1840, 55,949 persons were attacked with fever,—every fifth person in the city. Of these, 4,788 died. The city of London has probably suffered more from imperfect drainage than any other city in the world; and even at this day, after years of labor, and an enormous expenditure of money, that city is still suffering through the ignorance and errors of the past, from evils which may never be wholly eradicated.

Hamburg, Berlin, and Vienna all testify to the same thing; and as most conclusive testimony, we have the statement that the fearful scourges which have from time to time swept over Europe, have, on each return, broken out in precisely the same localities in every city, where the undrained soil was ready to generate the elements required to bring them into activity. The cities of the United States, having been generally located with reference to commercial necessities, are, in many instances, worse off than those of Europe; in addition to this, their growth is so much more rapid that a very few years finds them covering an extensive area of ground which has never been prepared for the purpose; the consequence is that drainage becomes impossible. Undrained lots are covered with houses, the residents in which are unaccountably sick more or less all the time, and when an epidemic comes the death-rate is frightful. If what has been stated is true, it follows that a neglect of proper drainage in cities is little less than

criminal. It cannot be accomplished by individuals, since it must be done according to a complete and extensive system embracing the whole municipality.

The responsibility rests, therefore, with the constituted authorities, and to them the people should appeal in every city. Let the subject be considered in each locality for itself, and a report of facts be made as they exist. The remedial measures must follow. The courses of all original drainage streams should be religiously preserved by first excavating them to a firm subsoil, and then constructing in their beds dry stone drains, covered with flat stones, through the interstices of which the water could percolate. The same kind of drains should be opened into all depressions which have no natural outlet, and in which water originally accumulated. These steps should precede the grading of streets, or, if that has been done, the drains should be conveyed under them.

II.—PAVING.

There is perhaps no one subject connected with the growth and improvement of cities which has had so marked an effect upon the health of the inhabitants as that of paving the streets. Although next in importance to the removal of surplus water from the soil, as a general rule it is not thought of, unless the nature of the soil, or the constant traffic compels a resort to it in order to facilitate business. It has seldom been resorted to simply as a sanitary measure, yet the history of a large number of cities shows conclusively that a great decrease in mortality is due alone to the paving of certain streets in localities previously noted for their unhealthiness. This is owing to the fact that less water gets into the soil, and the latter, being covered by the pavement, is not acted upon by the direct rays of the sun, thus preventing the generation of deleterious gases and miasma. Dr. Bell cites the city of Philadelphia as an instance of the great benefits derived from pavements, and states that the exemption of the inhabitants from intermittent and bilious remittent fever has, with great uniformity, followed the paving of the streets.

The space now called Dock Street was, in the early history of Philadelphia, a miry swamp traversed by a sluggish stream, on either side of which periodical fevers of all grades prevailed with a violence equal to those met with in the most sickly districts of the West. The exposed surface having been paved, and the creek partly filled and covered over, and made the line of a large drain, no person residing there now has any apprehension of fevers such as those that affected the former dwellers there. A like change from the operation of a similar cause has been wrought in the districts of Southwark, Kensington, and Richmond. The change in the sanitary condition of Southwark is the more obviously due to paving, and subsequent attention to scavengering, as the greater part of the drainage is on the surface, owing to the limited extent of sewers.

Louisville, Kentucky, is mentioned by the same writer as furnishing

one of the most remarkable examples of the beneficial change produced in the health of a city by paving. This city—once “called the graveyard of the West,”—is now as healthy as any town in that extensive region. Intermittent fever was a regular annual visitor, and occasionally a form of bilious fever prevailed, rivalling yellow fever in malignity, and threatening to depopulate the town. After the fever of 1822, the citizens seem to have become awakened to a sense of their condition, and as a means of avoiding the evils from which they suffered, a system of improvements was introduced, the principal feature of which was the paving of the streets. An entire change in the sanitary condition of the city followed immediately.

It seems unnecessary to multiply instances,—the facts are the same everywhere. No city can be healthy unless the streets are paved, and they should be well paved in the beginning. An inferior pavement is almost worse than none at all, as it is constantly out of repair, and fails in its purpose as a sanitary measure; and when we take into consideration all the inconvenience and evils attendant upon a bad pavement,—the frequent repairs required, the additional wear of carriages, the greater amount of traction, and consequent loss of power, and the injury to horses,—it will be found that a cheap pavement is always the most expensive in the end. Besides the cleanliness of a city, its scavenging, depends so much upon its pavements; for whatever may be the character of the soil, it is impossible to keep the streets cleaned unless they are well paved. The refuse matter which collects upon the surface, and which it is impossible to remove except from a pavement, becomes incorporated with the soil, and supplies a constant and fruitful source of disease; and in a *bad* pavement, the holes that are constantly being formed are the receptacles for offensive materials. Even a hard rain, instead of contributing to cleanliness, has a contrary effect, by fermenting those substances which, in a dry state, would in some measure continue inactive, and in a great degree harmless.

Assuming it, therefore, to be admitted that the pavement of the streets is a matter of the first necessity, an important question arises at once as to the character of the pavement: What materials are the best? and how it should be constructed?

Unfortunately, the question of economy must be discussed at the same time, if we expect any satisfactory result (and this Report aims to be practical) to arise out of the discussion.

The conditions of a perfect pavement are, a light grade, easy traction, and a good footing for horses. It should be so constructed that water could not percolate through or under it, so that it would not be liable to get out of repair, and so that any portion could be readily taken up and replaced without impairing its stability.

The only pavement fulfilling all these conditions, combined with durability in the material, is the concrete pavement, or small cubical blocks of primitive rock laid upon a bed of concrete. Innumerable experiments and ingenious inventions have been tried, in almost every city of the world, to determine upon a pavement fulfilling all the necessary conditions, but nothing has been found to excel or to equal

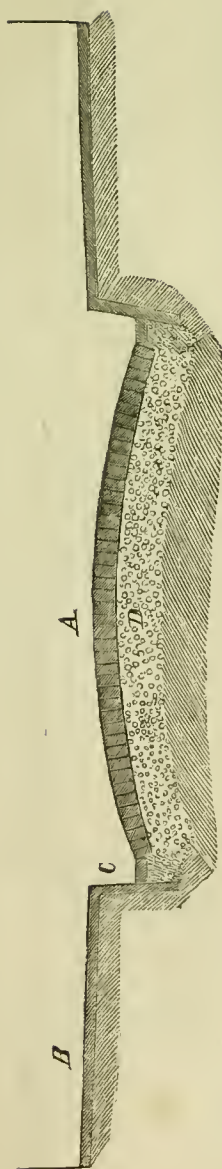
the old Roman pavements, which have survived the lapse of time and destruction of everything contemporary with them, and bid fair to survive the very memory of those who constructed them.

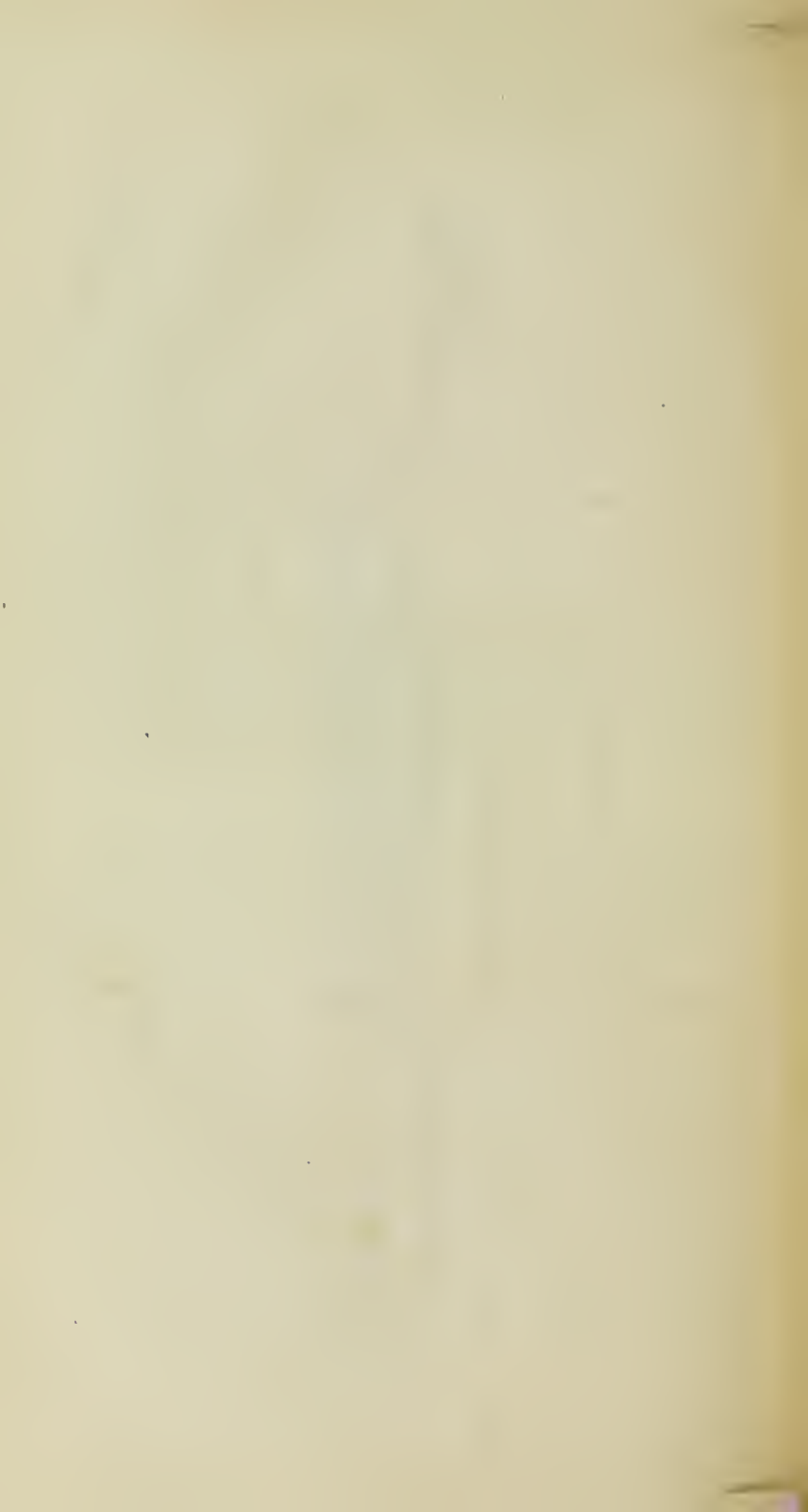
The principles on which the Roman pavements were constructed are those which are requisite to a good pavement. There can be no question as to this character of pavement being the only one which will stand our climate. Whenever a pavement is so constructed as to admit of water percolating through into the road-bed, there the frost will follow, and the pavement will be upheaved. Cobble-stone pavement is a mere temporary expedient. Where there is any amount of travel it is always out of repair, while the cubical block pavement now being extensively used in New York will be worse than cobble-stones in a few years, with nothing but sand underneath, which will be wet and frozen in the winter, and of course thrown up, when the angular blocks will be very destructive to carriages. As the expense of concrete underneath is but a small addition to the original cost, while the expense of repairs will be one hundred per cent. less, it is to be regretted that the latter pavement is not universally adopted at first, as it certainly will be in the end. I have no hesitation in recommending that every city should at once lay down a specimen of this pavement, to be examined, and tested, and compared with every other kind, as to durability, cost, and value. The citizens will soon learn to appreciate its merits, and its general adoption must follow, to the great improvement of the comfort and health of the inhabitants.

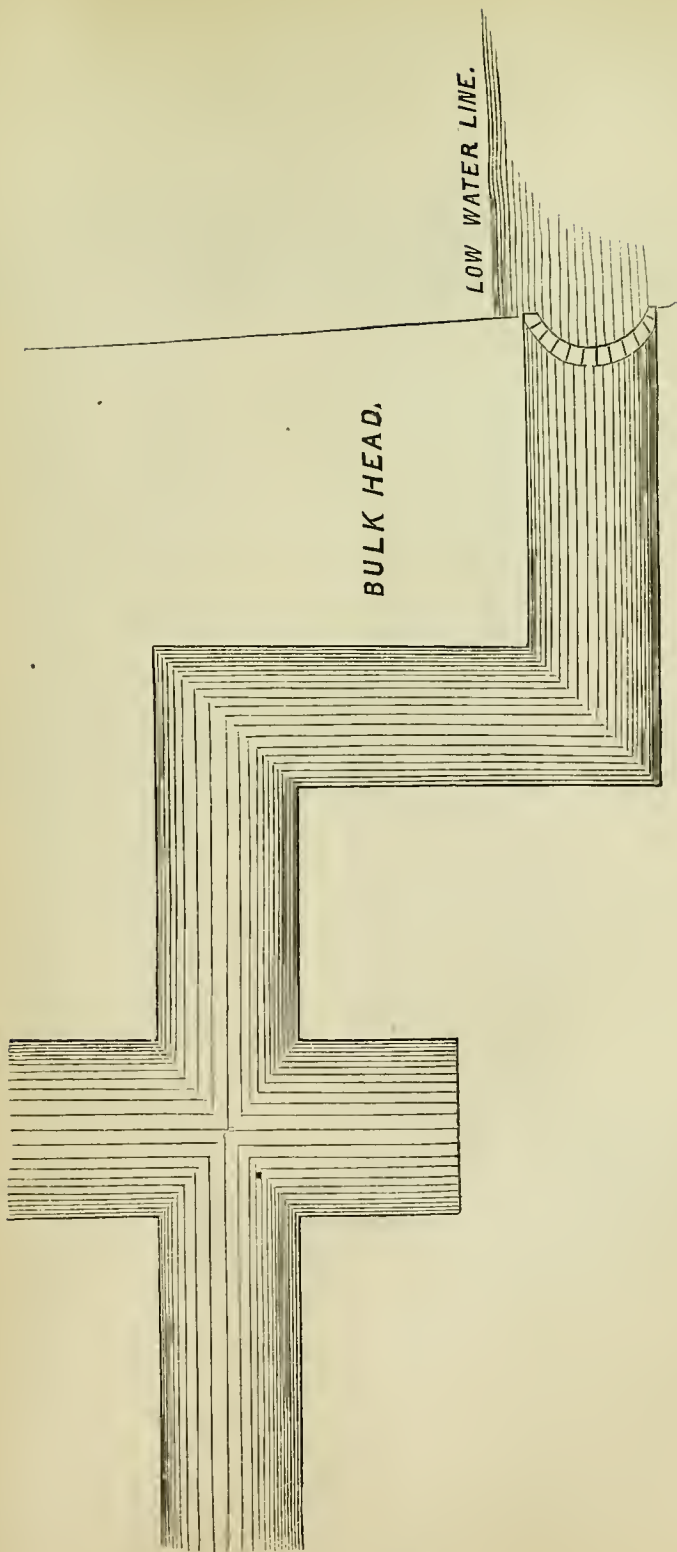
III. — SUPPLY OF WATER.

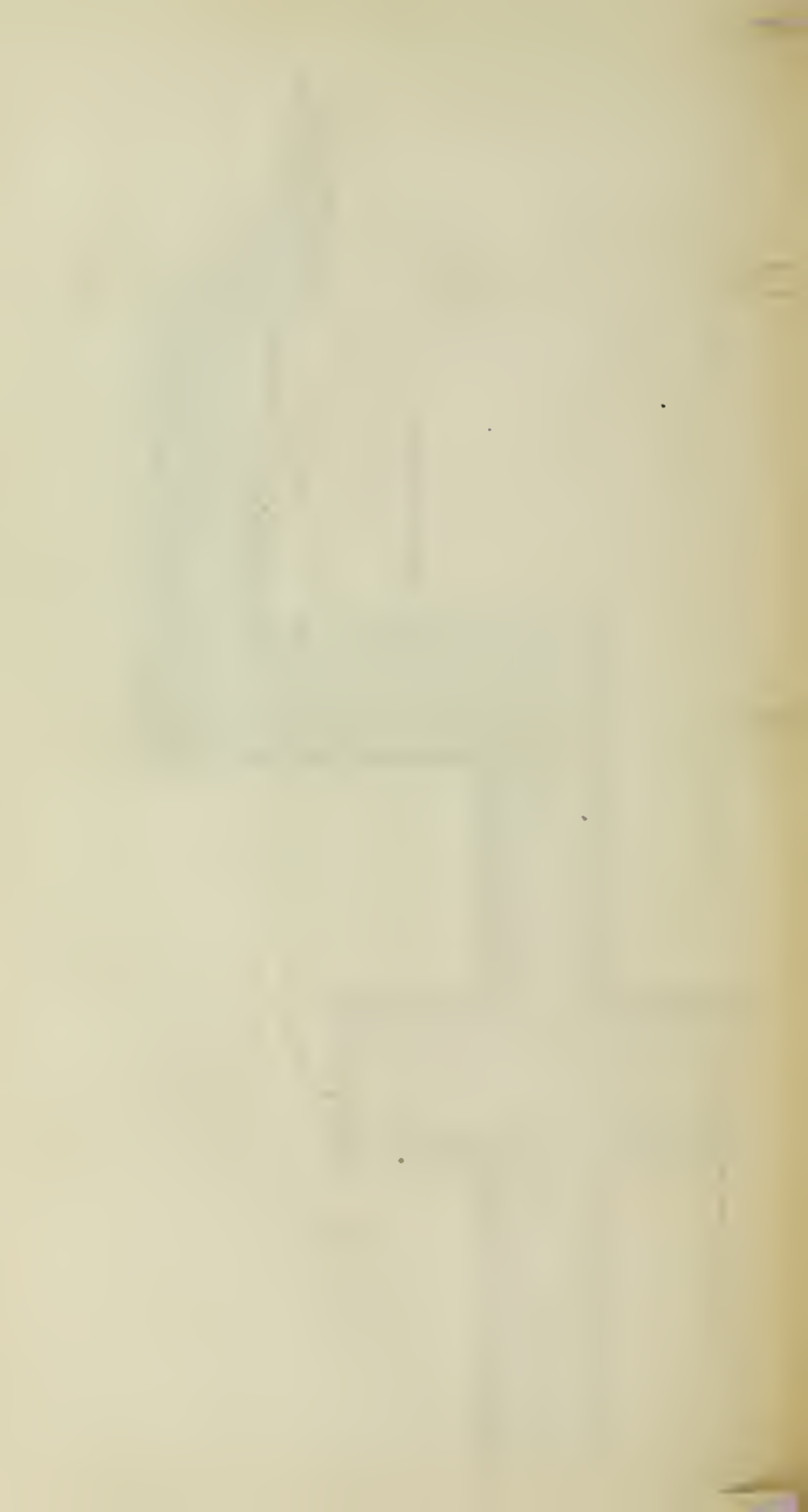
In a military point of view, next to a city's defence is an abundant supply of good water, and the fact holds good in every point of view; without it no city can be clean or healthy, to say nothing whatever of comfort. Water alone can remove the thousand impurities which are inseparably connected with a large population, and where it is connected, as it should be, with a properly constructed system of sewers, a great step is taken towards securing the health of the city.

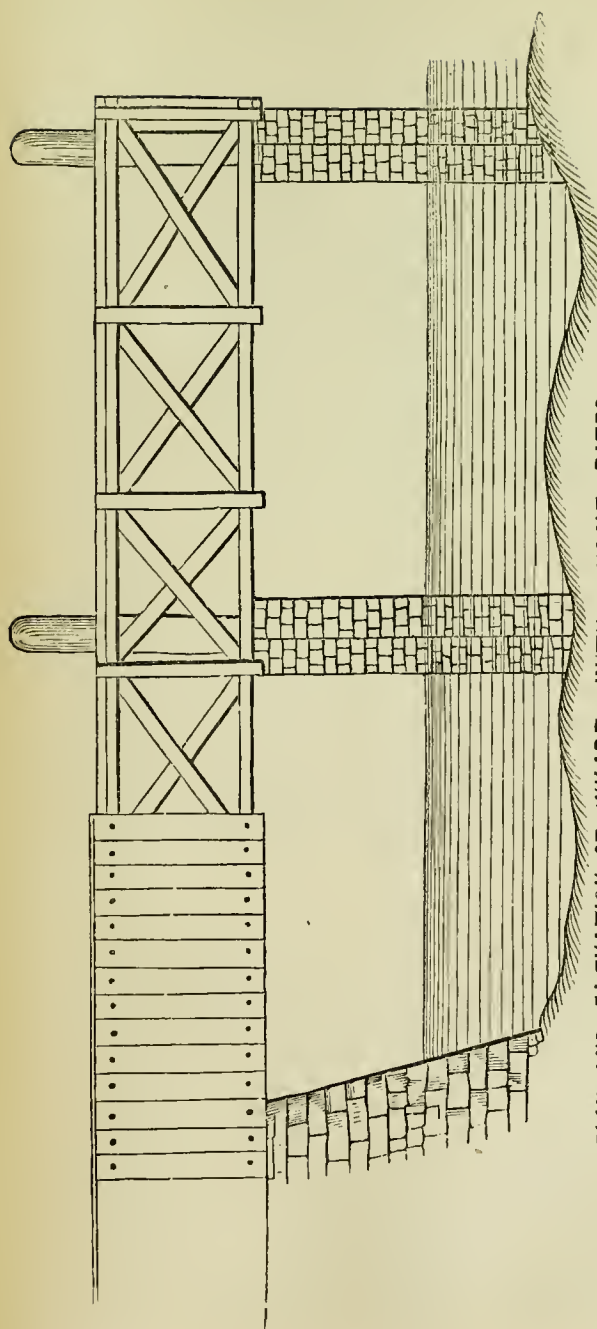
The aqueducts and sewers of ancient Rome, which, even in their ruins, excite our wonder and admiration,—through which whole rivers were turned into that city,—enabled her to preserve the laws of health, and so to gather within her walls, without fear of pestilence, an immense population. But, when those laws were neglected by the lawless democracy into whose hands the control of the city fell, her downfall and desolation began. To her sanitary regulations she owed her imperial splendor; to their neglect she owed her ruin. No better illustration than that of Rome can be furnished of the value to a city of a copious supply of water. It attracts population, and increases the value of property to an extent which soon repays the outlay for the construction of the works. In fact, if the works are of the right character, built with a view to the increase of population, and such as to insure an ample supply of water, they cannot fail to be a source of revenue to a city.













IV. — SEWERAGE.

A supply of water necessitates the construction of sewers. In fact, it is a doubtful experiment to attempt to use them without the necessary amount of water to insure their being kept clean, for they may become the source of the most frightful disorders. This problem of sewerage is by no means an easy one to solve in communities where progress is the result of individual prosperity. It is a difficult matter to persuade people to look forward to the comfort of generations to come after them, when they have to furnish the means for it. And nothing is so essential to the success of a system of sewerage as to make it sufficiently extensive and comprehensive in the beginning. The main trunk sewers, which may be more than sufficient for the necessities of one generation, are found to be too small for the branches which are gradually emptied into them, and, as a consequence, being unable to carry off the sewerage, they become choked up, and produce discomfort and disease where they were intended to secure comfort and health. While it is not necessary to lay down here a plan for the construction of sewers, yet it is not out of place to call attention to the necessity of keeping the mouths of the sewers below the surface of the water in which they are conveyed. This can be readily done by depressing the sewer suddenly at the stream, creating a fall near the river, so that that portion of the sewer which is between the fall and the river will be always filled with water. This is necessary in order to prevent the rush of air through the sewer from the river, which drives the sewer gases into the houses, and fills the atmosphere itself with foul odors. Another cause of the ascending of sewer-gases is the practice, which ought not to be tolerated, of admitting pipes into the sewers for the discharge of waste steam. Nor should the washings from gas-works or manufactories be allowed, under any circumstances, to go into the public sewer.

DOCKS.

Although not precisely in the hygienic connection which has been laid down in the beginning of this report, yet the docks, wharves, piers, and bulkheads of a city are often such positive causes of insalubrity, that it is proper to refer to them here. While there is no period in the history of the city when every other question should not be regarded as secondary to its sanitary condition, yet it becomes necessary to tolerate the existence for a time of certain evils which should be removed the moment the public health demands it, and under this head are the temporary wharves and piers for the use of shipping. The manner of constructing them is by sinking cribs made of logs, and filled with stones, or by driving piles into the bed of the stream, and then erecting constructions upon them. These piles decay above the water-line, and are replaced by driving new ones alongside of the old. No arrangement could be devised which would be better calculated to check the tidal currents, to collect the refuse which is thrown

into the river, and to aid sedimental deposits, all of which tend to make the vicinity of the wharves, and even the river itself, a source of pestilence.

It is hardly necessary to say that these constructions ought to be replaced by more durable structures, better adapted to the necessities of a city and the wants of commerce. In the first place, they should be built of stone, or at least upon stone piers. The superstructure may be of wood. The accompanying diagram exhibits a plan and elevation of a wharf built on stone piers. Certainly, no city, which owes its existence and prosperity to commerce, ought to hesitate in providing that commerce with all necessary and decent facilities. As it is now, with hardly a solitary exception, the wharves and piers of our cities are regarded as the most offensive, most dilapidated, and most unhealthy part of the town.

The slips are filled with mud, requiring constant dredging. The vilest refuse matter, dead animals of every description, are floating backwards and forwards with the ebbing and flowing tide. Vice and filth seem to revel unchecked in their precincts; ragged, thieving boys and debauched men, rubbish and old lumber, rickety shanties, low grog-shops, and all manner of dens, meet the eye in every direction. Such is a picture of the wharves of a commercial city in the United States, whereas they should be solid ornaments to the city, spacious in their proportions, with ample room for shipping. The severest penalty should attend the throwing of any refuse into the water. Garbage-carts should attend upon the shipping in dock as they do upon the dwellings. They should be kept clean by thorough and frequent washing. A well-organized and active police should prevent the violation of ordinances, and arrest the vagrants. I am free to say that such a state of things would tend to elevate the character of the sailor. The docks and their vicinity are his home on land, and he cannot but feel and be degraded under the influences which surround him. Surely there is money wasted somewhere in our municipal governments, which might be expended in improving the condition of their wharves. If they are private property, let the owners be compelled to erect suitable constructions, and let them follow the laws of property everywhere, by exacting suitable compensation for their use. I cannot close this branch of the subject, without expressing the hope that some effort will be made to draw public attention to the disgraceful neglect of the accommodations for shipping.

PUBLIC MARKETS.

It is not out of place to refer also to the subject of markets, which too frequently, in large cities, are a disgrace and a nuisance. At this day there is not a decent public market-house in the city of New York. It is surely a great error to allow these places, which ought to be, with their fruits and flowers and fresh vegetables, an attractive place to visit, to become revolting depots of filth, where moral pollution keeps pace with the accumulation of mud and putridity. Millions

of dollars are expended on jails and penitentiaries, while the hot-beds of vice, from which they are filled, are wholly unattended to.

Contrast the different effect which must be produced upon the minds of those whose occupation is to supply the daily quota of food to the city, if their business were conducted in large, airy, and commodious buildings, instead of men, women, and children being huddled together in rickety shanties encumbered with refuse, where every sense is offended, and what should be a pleasure becomes a disgust.

Until suitable buildings are provided, no sanitary regulations can improve their condition. When these shall be erected, a careful examination of everything that is offered for sale, a constant use of water, and the immediate removal of the refuse which will otherwise accumulate during the day and become a source of disease, will obviate the evils which exist. The buildings themselves would be an ornament to the city; they would be the resort of strangers as well as residents, and a clean and orderly set of men and women would replace the noisy assemblage which is now to be found in them.

THE ECONOMICAL DISPOSITION

OF THE

REFUSE MATTER OF CITIES.

The various questions which arise under this head,—such as the best mode of removing the refuse matter,—when it should be done,—the actual or relative value of the different kinds of refuse,—their adaptation to agriculture, or to other uses,—increase in importance with the increase of population. In a very dense population, like Paris, persons are found who turn everything to account, and such is the strife among what are known as *chiffonniers*, that they are licensed and assigned to districts. Scarcely a particle of refuse matter is wasted. Also, in some of the other larger cities of Europe, the cleaning of the streets, instead of being a tax, yields a revenue. In order to exhibit this matter in an economical point of view, it has been deemed proper to insert here the admirable essay upon this subject by Baron Liebig, contained in a communication to Alderman Mechi, of London. Although the matter is not treated by the Professor in a sanitary sense, yet the entire paper is too valuable, taken in this connection, not to meet with due attention.

“MUNICH, Nov. 17.

“DEAR SIR: Your letter, of the 7th of November to *The Times*, furnishes me an occasion to express to you my sincere thanks for the

views to which you there give utterance, and which I have labored many years to impress. I am sorry not to be able to say that my efforts have been attended with any perceptible results, and I regard it as a fortunate event that a man of so eminently practical a character as yourself has now, for the first time, in the interests of agriculture, and the national welfare, taken up the question of the 'sewerage of towns' with warmth, and in language adapted to produce conviction.

"It is my ardent wish that you may succeed in awakening the English people to your own convictions; for, in that case, the ways and means for setting aside the difficulties which stand in the way of procuring manure from the 'sewerage of towns' will certainly be found; and a future generation will look upon those men who have devoted their energies to the attainment of this end as the greatest benefactors of their country.

"The ground of my small success lies clearly in the fact, that the majority of farmers do not know the extent to which their own interests are concerned in this matter, and because the views and conceptions of most men, in regard to the circuit of life and the laws which govern the preservation of the race, do not generally rise above those of C. Fourier, the inventor of the phalanstery. He proposed, as you know, to supply the wants of the occupants of his phalanstery by means of eggs. He supposed it was only necessary to procure a couple of hundred thousand hens, each of which would lay thirty-six eggs a year, making as many million eggs, which, sold in England, would produce an immense income. Fourier knew very well that hens lay eggs, but he seemed not to know that, in order to lay an egg, they must eat an amount of corn its equal in weight; and so most men do not know that the fields, in order to yield their harvests, must either contain, or else receive from the hands of man, certain conditions which stand in the same relation to the products of the field as the hen's food does to the eggs she lays. They think that diligent tillage and good weather are sufficient to produce a good harvest; they therefore regard this question as one in which they are wholly unconcerned, and look forward carelessly and with indifference to the future.

"As physicians who, in the apparent signs of a young man's blooming health, discern the fatal worm which threatens to undermine his organic frame, so in this case should these discerning men, who are capable of comprehending the range of the question, raise the earlier the voice of warning.

"It is true that the diligent tillage of the fields, sunshine, and timely rain are the outward conditions, perceptible to all men, of good harvests; but these are perfectly without effect upon the productiveness of the field, unless certain things, not so easy of perception by the senses, are present in the soil, and these are the elements which serve for nourishment, for the production of roots, leaves, and seeds, and which are present in the soil always in very small quantity, in proportion to the mass of the soil itself.

"These elements are taken from the soil in the products of the field in the corn or in the flesh of the animals nourished by these products;

and daily experience shows that even the most fruitful field ceases, after a certain series of harvests, to produce these crops.

"A child can comprehend that under these circumstances a very productive field, in order to remain very productive, or even simply productive, must have the elements which had been withdrawn in the harvests perfectly restored; that the aggregate of the conditions must remain in order to produce the aggregate results, and that a well, however deep it may be, which receives no supply of water, must, in the end, become empty, if its water is constantly pumped out.

"Our fields are like this well of water. For centuries those elements which are indispensable to the reproduction of the crops have been taken from the soil in those crops, and that, too, without being restored. It has only recently been ascertained how small a supply of these elements the soil really has. A beginning has been made to restore to the fields the losses which they sustain through the annual harvests, by introducing, from external sources, manures containing the same elements. Only a very few of the better informed farmers perceive the necessity of this restoration, and those of them who have the means have zealously endeavored to increase the amount of these elements in their fields; but by far the greater part of them know nothing of such restoration. They think that they may continue to take from the field as long as there is anything left, and that it will be time enough to provide for this necessity when it knocks at their doors. They do not, of course, know how large their stock on hand is, nor are they aware that when the necessity shows itself there will be no means to correct it; they know not that what they have wasted is irretrievable.

"The loss of these elements is brought about by the 'sewerage system of towns.' Of all the elements of the field, which, in their products, in the shape of corn and meat, are carried into the cities, and there consumed, nothing, or as good as nothing, returns to the fields. It is clear that if these elements were collected without loss, and every year restored to the fields, these would then retain the power to furnish every year, to the cities, the same quantity of corn and meat; and it is equally clear that if the fields do not receive back these elements, agriculture must gradually cease. In regard to the utility of the avails of the 'sewerage of towns' as manures, no farmer, and scarcely an intelligent man, has any doubt, but as to their necessity, opinions are very various.

"Many are of the opinion, that corn, meat, and manure are wares, which, like other wares, can be purchased in the market; that with the demand the price may, perhaps, rise, but this will also stimulate the production, and that all turns upon having the means to purchase, and so long as England has coal and iron she can exchange the products of her industry for the corn, meat, and manure which she has not. In this respect I think it would be wise not to be too confident of the future, for the time may, perhaps, come, even in half a century, that not one of those countries upon whose excess England has hitherto drawn will be able to supply her with corn, and that, too, from the natural law, that what is true of the smallest piece of ground is

true also of a great country. It ceases to produce corn if the conditions of the reproduction of the corn which has been carried off are not restored to it. Nor is it, furthermore, certain whether the corn-growing countries will always desire to exchange their corn for the products of English industry, since they may no longer need these products, or, at least, not in the ratio of England's need of corn. In the countries of Europe, and in the United States of North America, great efforts are made to become in this respect independent of England, as being in the end the only way of keeping the corn prices in these countries so as to repay the labor.

"In the United States the population increases at a still greater ratio than in other countries, while the corn production upon the land under cultivation has constantly fallen off.

"History teaches that not one of all those countries which have produced corn for other lands have remained corn-markets, and England has contributed her full share towards rendering unproductive the best lands of the United States, which have supplied her with corn precisely as old Rome robbed Sardinia, Sicily, and the rich lands of the African coast, of their fertility.

"Finally, it is impossible in civilized countries to raise the corn production beyond a certain limit, and this limit has become so narrow that our fields are no longer capable of a higher yield without an increase of their effective elements by the introduction of manures from abroad.

"By the application of guano and bones the farmer of most limited capacity learns the real import of such increase; he learns that the pure system of stall or home-made manures is the true and genuine robber system. In consequence of his restoring in the guano and bones but a very small portion of those very same elements of seeds and of fodder which had been withdrawn from his fields by centuries of cultivation, their products are wonderfully increased. Experiments instituted with special reference to this end in six different parts of the kingdom of Saxony showed that each hundred weight of guano put upon a field produced 150 lbs. of wheat, 400 lbs. of potatoes, and 280 lbs. of clover more than the same sized piece of ground without guano, and from this it may be calculated how enormously the corn and flesh production of Europe has been increased by the yearly importation of 100,000 tons, or 2,000,000 cwt. of guano.

The effect of guano and bones should have taught the farmer the real cause of the exhaustion of his fields; it should have taught him in what a condition of perpetual fertility he might have preserved his fields if the elements of the guano, which he has transported in the shape of meat and products of his field into the cities were recovered and brought into a form which would admit of their being restored to his fields every year.

"To an understanding of this, however, the farmer has not yet come, for, as his forefathers believed that the soil of their fields was inexhaustible, so the farmer of the present day believes that the introduction of manures from abroad will have no end. It is much simpler, he thinks, to buy guano and bones than to collect their elements from

the sewers of towns, and, if a lack of the former should ever arise, it will then be time enough to think of a resort to the latter. But of all the erroneous opinions of the farmers this is the most dangerous and fatal.

"If it is perceived that no country can perpetually supply another with corn, then it must be still easier to understand that an importation of manures from another country must cease still earlier, since their exportation diminishes the production of corn and meat in that country in so rapid proportions that this decrease in a very short time forbids the exportation of manures. If it is considered that a pound of bones contains in its phosphoric acid a necessary condition for the production of sixty pounds of wheat, that the English fields have become capable by the importation of one thousand tons of bones of producing two hundred thousand bushels more of wheat in a series of years than they would have produced without this supply, then we can judge of the immense loss of fertility which the German fields have sustained by the exportation of so many hundred thousand tons of bones which have gone from Germany to England. It will be conceived that if this exportation had continued, Germany would have been brought to that point that she would no longer have been able to supply the demand of her own population for corn. In many parts of Germany, from which formerly large quantities of bones were exported, it has now already come to be the case that those bones must be at a much higher price bought back again in the form of guano in order to obtain the paying crops of former times.

"The exportation of bones for so many years from Germany was possible only because the German agriculturists had less knowledge of the real nature of their business than the English, believing, as they did, that practice and science taught doctrines contradictory to each other, and were fundamentally different things, and that they must trust, not in the laws of nature, but in receipts. Things have now changed for the better, although not to the extent which was to be desired, for the German farmers do not as yet generally understand the value of the elements of bones for preserving the present fertility of their fields (not to speak of the restoration of their former fertility), for if they all understood this, no one could have any more bones,—at all events, no more than those which he brings to market in his grain and cattle.

"The prices of bones have become so high in Germany as to forbid their exportation, and if the question should be put to English commerce, whence it furnishes the English farmer, with this, to him, so indispensable a manure, the answer would produce astonishment; for this commerce has already so far robbed all the inhabited parts of the earth that the manufacturer of superphosphate can only set his hopes upon the phosphate of lime of the mineral kingdom.

"In relation to guano, I have been assured that in twenty to twenty-five years, if the use of guano should increase in even the same proportion as hitherto, there will not remain in South America enough to freight a ship. We will, however, suppose its supply and that of bones to continue for fifty years, or even longer; then what will be

the condition of England when the supply of guano and bones is exhausted?

“This is one of the easiest of all questions to answer. If the common ‘sewerage system’ is retained, then the imported manures, guano and bones, make their way into the sewers of the cities, which, like a bottomless pit, have for centuries swallowed up the guano elements of the English fields, and after a series of years the land will find itself precisely in the condition it was in before the importation of guano and bones commenced; and after England shall have robbed the cultivated lands of Europe, even to complete exhaustion, and taken from them the power to furnish her longer with corn and manure, then she will not be richer than before in the means of producing corn and meat, but will, from that time forth, become even poorer in these means.

“By means of the importation of guano and bones, the population has, however, in consequence of the increased production of corn and meat, increased in greater ratio than would have been possible without this importation of manures, and this population will make upon the rulers of the State their natural demand for food.

“If men do not deem it desirable that the balance between population and the supply of food be restored by means of exterminating wars and revolutions (in which the want of food has always played a certain part), or by means of wasting plagues, pestilence, and famine, or by emigration *en masse*, then should they reflect that the time has arrived for getting a clear view in regard to the causes of existence and increase of population. A very little reflection will lead to the conviction that the relations of populations are governed by a great and comprehensive natural law, according to which the return, duration, increase, or diminution of a natural phenomenon depends upon the return, duration, increase, or diminution of its conditions. This law governs the return of the harvests upon our fields, the maintenance and increase of the population; and it is easy to see that a violation of this natural law must exert upon all these relations a pernicious influence which can be set aside in no other way than by the removal of its causes. If, then, it is known that certain existing circumstances work deleteriously upon the fields; if it can be foreseen that their continuance must bring about the ruin of agriculture, if there is but a single one of all the means which have hitherto resisted this deleterious influence and made it less sensibly felt, which can be safely relied upon to secure a perpetual fertility to our fields, and this means, by a simple change and improvement of the existing deleterious state of things, can be obtained, then it becomes us to think whether a nation should not summon up all her intellectual and material resources in order to preserve these fundamental conditions of her welfare.

“It has been maintained that the recovering of the manure-elements out of the sewers of large cities is impracticable. I am not ignorant of the difficulties which stand in its way. They are, indeed, very great; but if the engineers would come to an understanding with the men of science in relation to the two purposes,—the removal of the

contents of the sewers and the recovery of their valuable elements for agriculture, — I do not doubt that a good result would follow. Intelligence in union with capital represents a power in England which has rendered possible and practicable things of much greater apparent difficulty. I look forward, with deep concern, to the solution of the sewerage question, for, if this question is decided in Great Britain without regard to the wants of agriculture, we can scarcely hope for any thing better upon the Continent.

“Permit me to add still a few words in relation to the leading article of *The Times* of the same date, in which the one side of this question is taken up with great clearness, while the author of the article seems to have not quite a correct view of its bearing as it presents itself to my mind. The mistake into which he has fallen arises from his confounding the condition of a State with that of its population.

“In the natural sciences we know nothing of a State,—of its might or its feebleness. We know only lands, their geological formation, their climate and soil, and whether the soil contains the natural conditions of the subsistence of man and beast. In places where these conditions are abundantly present, and geological circumstances do not hinder their intercourse, men cannot be exterminated. The most wasting war cannot rob a land of the conditions which nature has given, nor can peace give them to a land which wants them.

“Countries may be fruitful and become capable of sustaining a large population, when certain resisting influences, which, in their unhindered working, make the cultivation of the soil impossible, are overcome by human intelligence, or when a land has all the conditions of productiveness except one, and then receives the one which it lacked. If Holland were without her dikes, which must be kept up at great expense, she would produce neither corn nor meat; the land would not be inhabitable. In a similar manner, the inhabitant of the African oasis protects his grain fields by dikes against the storms of the desert, which cover his land with a barren sand; and if Mr. Layard is disposed to answer the question put to him, he will say that the decay of an admirable system of irrigation rendered the permanent maintenance of a great population in Assyria and Mesopotamia impossible.

“I know that the prophets of future evil have at all times been derided by their own generation; but, if history and natural laws can furnish any ground for a just conclusion, then there is none which stands more firmly than this,—that, if the British people do not take pains to secure the natural conditions of the permanent fertility of their land,—if they allow these conditions, as hitberto, to be squandered their fields and meadows will at no distant time cease to yield their returns of corn and meat. But it does not belong to the province of natural science to discuss the question whether the might, strength, and independence of the nation will be preserved after this state of things shall have gradually arisen.

“Believe me, dear sir, yours very truly,

“JUSTUS VON LIEBIG.

“Mr. J. J. MECHI, Triptree-hall, Kelvedon, Essex.”

The economical merits of this question need not be further discussed, as they have been exhausted in the above paper. Let us endeavor, therefore, to throw out some suggestions of a practical nature.

The refuse matter of cities may be divided into—

1. *Street-cleanings, or what is incidental to traffic.*
2. *Garbage and ashes, or what is removed from the interior of houses.*
3. *Sewage, or the matter which is conveyed into sewers.*
4. *Night-soil, or excremental deposits which are not conveyed off by water.*
5. *Offal, or carcasses of dead animals.*

STREET CLEANINGS.

The constant sweeping of the streets is so essentially necessary to the preservation of health that it seems scarcely worth while to refer to it. Yet it is supposed by some that, unless the accumulation of mud or dirt becomes so great as to be offensive, scavengering is a useless expense; and it is probable that, if it were put to vote, in some cities, whether the streets should be swept twice instead of three times a week, the latter increasing materially the expense, it would be decided in favor of sweeping but twice. It is not, however, generally known that there is sometimes more danger to the health of a city from removing an accumulation of refuse matter than to leave it alone. For this reason frequent scavengering becomes a necessity. If the refuse has once been suffered to accumulate, it should not be removed in hot weather. An attempt to clean the streets of Vera Cruz, after they had been neglected for some time, almost involved the destruction of that portion of our army stationed there during the war with Mexico.

The material obtained from the streets has, in many instances, been used for filling sunken lots, and redeeming low ground. No greater folly could possibly be exhibited; for such a course has never failed to be followed by the most aggravated fevers; besides, the material properly belongs to agriculture, so that in an economical view it is wrong so to dispose of it. The proper course to pursue is to secure a piece of waste ground outside of the limits of the city, as a place of deposit for this material. This could be the more readily done in American cities, from the convenience afforded by the city railways, which are now being generally adopted. Transporting it in boats does not pay for the labor required. Whereas, with cars, the dirt can be dumped into them from a platform, and again dumped from the cars at the place of deposit. By a proper arrangement of pits, night-soil and even offal might be added to this deposit, and in time a most valuable accumulation of the richest kind of fertilizing material would yield a revenue to the city.

All of the streets should be swept at least three times a week, and the thoroughfares every night. The manner in which it is done

in Paris, as shown by the correspondent of the *Times*, exhibits the advantages derived from a thorough system. He states: "The general supervision of this branch of municipal administration is confided to the mayors, while its special supervision falls under the prefect of police. The sweeping of the streets is done at the charge of the proprietors, or where there are shops, no matter of what kind, at the expense of the owners of these shops; the average annual tax for this purpose is two dollars. The receipt for this money comes from the prefect of police.

Thus the citizens pay directly for the sweeping of the streets directly in front of their houses, but the city carries away the sweepings. This labor is now done by contract. The sweeping costs \$300,000 annually. The contractors who carry off the rubbish, after allowing it to rot a certain time in pits, sell it as manure, at the rate of three to five francs the cubic yard, and realize a total sum on its sale of \$700,000. The direct superintendence of the street sweeping is confided to officers responsible to the city government. The number of scavengers employed in this work in Paris is 2,500, including both sexes. They are divided into four legions, comprising twelve battalions, or thirty-six companies of four sections each.

The persons found employed in this work are almost exclusively Alsacians and Germans, but very many of them speak French as well. They are not at all miserable-looking people as one sees employed in similar labor in other cities, but, for the most part, young or middle-aged persons, in apparent robust health. The men are paid twenty-four sous (or cents) per day; the women twenty sous, and the children sums in accordance with the labor they are capable of performing; for here street-sweeping, like other of the menial occupations, is elevated to the dignity of a science, and is learned by an apprenticeship. It must be confessed that this fact does not speak very loudly for the mental acquirements of the professors of this science, but there must be people for all occupations. The sweeps collect at given points, in companies of forty to sixty, every morning before four o'clock; they take their places in rank two by two, men and women, and the roll is called and the absent marked; at four o'clock they are all at their work. The work is performed by means of long switch brooms. They finish at or before eight o'clock, accomplishing the work in four hours. These hours are fixed, and invariably at eight o'clock the carts carry off the rubbish; no rubbish from the houses can be thrown into the streets after the hour fixed for the carrying off of the street sweepings.

At eight o'clock in the morning the fountains are opened, and the gutters are filled for an hour or more with streams of pure running water, a measure that is repeated in the course of the day, according to the wants of the season; and all this is accomplished every morning without confusion, and with the regularity of clock-work,—a result due entirely to a careful organization and efficient superintendents.

The streets of Paris are thus always as clean as well-used brooms can make them. They are no relaxations,—no experiments; it is a

regular system, which works from January to January with the same daily efficiency, and is never the cause of complaint from any source. It is not regarded as an extraordinary feat of administration, and any inefficiencies in its performance would be a matter of surprise. Besides this, a certain number of workmen, called *cantonniers*, are employed all day to work on the streets to scrape up the accumulating dirt, and to keep the gutters clear. A certain number of carts are retained all day to carry off the sweepings of these *cantonniers*. The sweepings of the public squares and gardens is done exclusively at the charge of the city.

GARBAGE AND ASHES.

It is a very common practice in cities, — in fact, in some of them it is established by ordinance, — for the garbage and ashes to be exposed on the sidewalk in barrels and boxes, to be removed by carts which go around for that purpose. In this way, for a large portion of the day, a quantity of fermenting, deleterious substance is exposed in summer to the direct action of the sun, giving off the most venomous gases, while frequently, from the overfilled barrels and boxes it is strown over the sidewalk and into the street. A more reprehensible practice could not exist; the remedy for which is to have these barrels or boxes retained in the areas or yards under cover until the residents are notified by the ashmen to bring them out, and a law to this effect should be enacted and enforced in every city.

SEWAGE.

That the entire contents of the sewers of large cities may be successfully used to enrich the soil, there is no doubt, since it has been done in several European cities. The only question is to devise the most economical method for accomplishing the object. Where the site of the town is elevated, it can be readily effected, as is shown in the case of the city of Edinburgh, the sewage of which is conducted over a considerable tract of meadows, on the east of the city, during the whole year, producing unexampled crops of grass, and commanding a high rent. The same facilities do not exist in towns which are located on or near the banks of rivers too low to admit of the sewage being conveyed to contiguous meadows. In Paris, however, the experiment has been successfully tried of pumping it up into reservoirs, and then using it for purposes of irrigation. In Birmingham, England, a similar use has been made of the drainage from the sewers. The evil effects which have been experienced in London, from the contamination of the waters of the Thames, have demonstrated the necessity of providing some other means for disposing the sewage of that city than by emptying it into the river, which has, in consequence, become a vast open sewer, giving forth the most noxious and offensive odors. The plan proposed to be adopted is to construct an immense main trunk sewer parallel to the river, which will receive the contents of all the sewers, and convey it to a distance below the city. There is no reason why this plan could not be adopted generally. It

certainly is no reason for polluting the waters of a river because it is convenient to do so. As in the case of the Thames, there is a limit beyond which it is impossible to go without the most serious consequences resulting from it. So that it is better to provide, in the beginning, against the evils which must follow an increase of population.

NIGHT-SOIL.

Night-soil produces the most surprising effects when carried to the land, before its fermentation is completed, and spread over it with care. The best way of using it is to form it into a kind of compost by mixing it with other substances, and especially by making it into heaps with turf, and adding a small quantity of burnt lime. By this means the superfluous energies are reduced to the requisite standard, and the effect extended over a greater space, without, however, there being any danger of the energy of the active matter which it contains being lost or impaired by this diffusion.

This manure then loses its fetid odor, and becomes divided and mixed up with the other substances, and forms a fertile soil. The best way of using it is to spread it over the ground, without covering it or burying it. It should be mixed up several times, and all the substances thoroughly mingled together before it is used.

In the neighborhood of Paris there is a large establishment in which a very active manure is manufactured from night-soil. It is made in the form of a powder, and for that reason is called *poudrette*. The excrementitious matter is placed on an inclined plane, covered with stone slabs, and there made into heaps in order that it may ferment, and when dry is spread over a greater extent of surface; a harrow is then passed over it to break it up, when it is frequently heated and thoroughly dried. It is then reduced to powder, which resembles brown tobacco in appearance, and sold to farmers, and particularly to gardeners, who, to judge from the price they pay for it, certainly must derive immense benefit from its use.

The inhabitants of Belgium also make great use of this kind of manure. They import and procure it from considerable distances, even in the form of a paste; and go to fetch it in carts and boats, without caring for the offensive odor which it exhales. They either use it in the form of compost, or mix it with a large quantity of water. It is highly valued in China and Japan, and hence called *Japan manure*.

OFFAL.

Nothing is so essential to the sanitary condition of a city as stringent regulations and a well-devised system with regard to the removal and disposition of the carcasses of dead animals. Every moment they are exposed adds to their power of vitiating the atmosphere, and diminishes their value for economical purposes. In an establishment properly conducted by competent persons, with sufficient capital, the entire offal of the city might be turned to account. They should be

removed as far as possible from the vicinity of dwelling-houses, and should be under constant supervision. Persons who are engaged in such occupations soon become accustomed to what would be to others the most offensive odors, so that they should not be the best judges as to whether they were conducting their business with the least possible annoyance to the neighborhood. The removal of offal should be under the direct supervision of the police.

Carts and men for this purpose should be stationed in the immediate vicinity of the station-houses, so that the moment a report is made on the subject from any of the precincts, the cart may proceed at once to the spot; and in transporting the offal, care should be taken that it be covered and hidden from the sight. Nothing can be more offensive than to see carcasses being carried through the streets. Deodorizers should be used to a greater extent during their transportation to the place of deposit.

By the exercise of skill, a large profit may be derived from converting the carcasses to economical uses. From the horns, hoofs, hair, hides, bones, &c., may be derived fat, glue, bone-dust, bone-black, bone-manure, leather, phosphate of lime, and much other material useful in manufactures. A large number of persons are employed in this occupation in Paris, and enormous profits derived from it. It is a question worthy the attention of capitalists as well as sanitarians.

Having thus endeavored to point out, in as concise a manner as possible, the necessity and the manner of disposing of the refuse matter of cities, it remains for those most interested to follow out the suggestions which have been made, or to devise more practical plans.

The experience of the most casual observer must confirm all that has been said as to the necessity of remedial measures of the most thorough description being adopted. And it becomes simply a question of duty, whether the intelligence of the age shall or shall not be enlisted in this sanitary crusade against human debasement. In vain has intellect been given to man, if he is content to exist, like the brute, in filth, or to inhale, at every breath, its venomous odors. Of what use is the free air of heaven, if he is content to live and sleep in ill-ventilated apartments? Of what use is the glorious sunlight, if he is content to shut it out from his dwelling? Of what use are his mental energies, if he cannot devise the means for the rational enjoyment of his existence?

While much is due from the individual to himself, no less is due from him as a member of society.

His obligations to society necessitate the observance of its laws, not the least of which are those which comprehend the preservation of the public health.

Again, society is organized for the protection of individual rights; such protection is due from society to its humblest member; and of all his rights, there is none more indisputably his, than that the air he breathes should be pure and uncontaminated.

The laws which protect the life or the property of the citizen are of no more importance than those which protect his health, and the penalties which attend the violation of one, should as surely be meted out to the violator of the other.

To the end that the practical co-operation of the civil authorities may be secured for sanitary reform, the following draft of a memorial is submitted, with the recommendation that a copy, signed by the officers of the Convention, be transmitted to the authorities of every incorporated city in the United States.

FORM OF MEMORIAL.

To the Mayor and Council of the City of—

The undersigned, your memorialists, in the interests of their fellow-citizens of all classes, and acting on behalf of the National Sanitary Convention, assembled in the city of Boston, on the 14th day of June, 1860, most respectfully petition your honorable body for the appointment of a special committee to examine and report upon the following subjects, vitally connected with the welfare of your city, viz :—

The condition of the drainage of the city, as connected with the original topography of its site.

The character and condition of the pavements of the city.

The character and condition of the works for the supply of water. Or, if no works are constructed, the expediency of constructing works for supplying the city with water.

The character and condition of the sewers, or the expediency of adopting a system of sewerage.

The character and condition of the wharves.

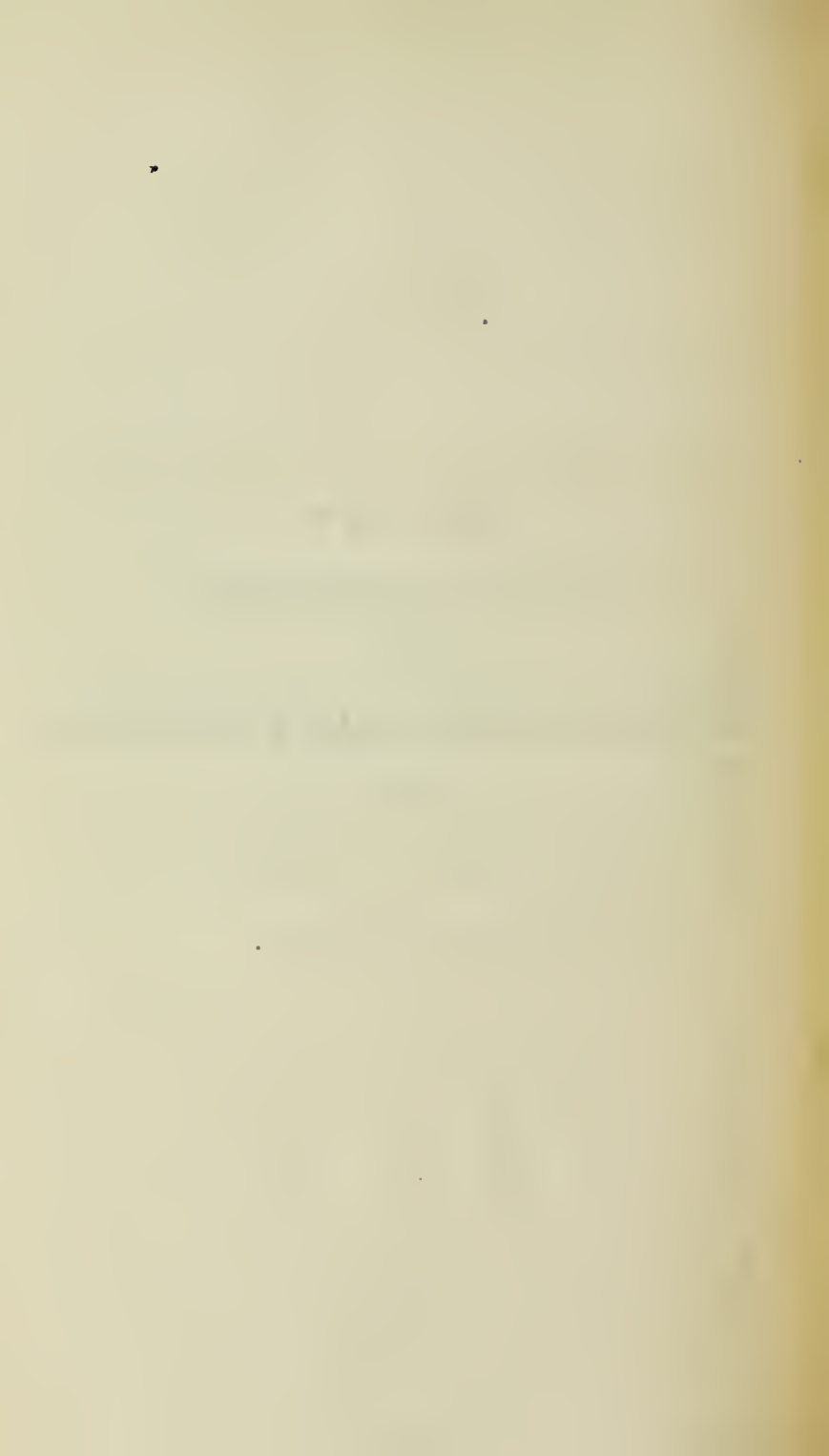
The character and condition of the markets.

Also, to submit such recommendations as they may deem proper with regard to the cleaning of the streets, the removal of garbage and ashes, and the proper disposition of night-soil and offal.

The undersigned regard the result of such investigation as being eminently calculated to advance the best interests of the whole community, by eliciting facts and spreading information with regard to sanitary reform, and your petitioners will ever pray, &c.

•

R E P O R T
UPON LEGAL RESTRICTIONS
FOR THE
CONTROL OF THE SALE OF POISONS
AND
DANGEROUS DRUGS.
BY DR. C. B. GUTHRIE.



APPENDIX E.

REPORT ON THE LEGAL CONTROL OF POISONS.

The legal control of the sales of poisons and dangerous drugs is a question not new even in purely scientific or deliberative bodies like the present, — while it has been often the subject of discussion in judicial and legislative assemblies, with various results and conclusions.

“A careful examination of reported cases in Europe, as well as in our own country, impressed me very deeply with the almost criminal neglect of our lawmakers, in leaving the sale of all poisons, but more particularly of that deadly one, arsenic, so utterly without safeguard.” This is the language of a medical gentleman, in the *American Medical Monthly*, and expresses the feelings of all who have given the matter any thought or examination; and certainly that of the Committee to whom this subject was referred at the last meeting of this Convention.

Various propositions have from time to time been brought forward, some looking entirely to the integrity and intelligence of the vendor of such drugs as a safeguard to the lives and health of community, others interposing stringent regulations bearing alike upon seller and purchaser, with a view to fix the responsibility both of sale and use of the article at the same time, — all confessing the need of some protection, and seeking a remedy for an acknowledged evil.

But to acknowledge the existing evil and our wants in this respect has been a much easier task than to point out the effectual remedy.

It seems to lie either in the efficient and thorough education of such as deal in drugs of this kind, so that no mistakes may occur, and in their unimpeachable integrity and honesty, so that no temptation shall lead them astray, or else in such legal restrictions as shall afford a means of fixing responsibility somewhere, with adequate and recognized penalties. Which of these two we shall be obliged to look to is apparent to all, and yet we shall find neither the awakened public opinion to either demand or sustain any *very stringent* enactments upon this subject in the most enlightened of our communities. The right “to buy and sell, and get gain” is the one great underlying principle of action of our people, and most others, too, we think, and though we in various ways and in diverse manner recognize the right to restrict this rule of traffic, yet when the reason for such restriction is not plain and tangible, we are apt to complain of every such infringement.

We *restrict* or guard the sale of gunpowder in all the States, and

make, almost every year, an effort, usually a failure, to be sure, to do something of the sort with whiskey and its adjuvants, especially the drugged or adulterated liquors, and almost every city restrains and prescribes the sale of vegetables and swill milk.

Therefore, to say that any State may not enact such laws as may be deemed proper upon a subject bearing directly upon the lives of its people, is simply absurd, and yet, many apothecaries look upon any such legislation with great disfavor, not only in this country, but in England as well.

Says a report made to that large and growing body of Pharmacians, the American Pharmaceutical Association, at their annual meeting in Washington, in 1858: "This subject seems to be exceedingly distasteful to the American dispenser to be dictated to, when and in what manner he shall sell poisons," and a recent attempt at the passage of a law of this kind in England met with such determined opposition as to lead its advocates to withdraw it, though we believe in this case it was obnoxious to serious charges of inefficiency in many particulars. Why we should object to legal restrictions upon the sale of such articles as are now in daily use for the worst of purposes; besides being the cause of many sad mistakes by being kept by *careless and inexperienced persons* in *unsafe and improper places*, among groceries and other articles of daily use and consumption, is more than your Committee are able to answer. If all our apothecaries were educated pharmacians and honest men besides, we should be able to see the reason for such objections; but no one will claim this much for them, and especially for such as lay no claim to any professional standing, and who keep and sell *arsenic* and *strychnine* from the same shelf or drawer as supercarb. soda, cream of tartar, and other articles used in our culinary departments, and therefore they should not complain if the people ask some protection from the manifest danger of such indiscriminate barter and trade. Besides this, a great many country stores and village corner groceries keep and sell many articles included in the list of poisons, and no doubt there are to be found in all our cities, grocery stores where the same thing is done.

When Congress passed a law, a few years since, subjecting all drugs and chemicals from a foreign port to inspection by an examiner appointed by government for that purpose, we had a great outcry about the rights of trade and commerce, but now all acquiesce in such legal restrictions, and most approve of the law as right and proper.

In every State in the Union there are laws similar in character, as to some branch of trade or business, while almost every country in the old world has special and often very stringent enactments upon this very subject.

We do not regard it as at all needful to enter into any argument to prove the necessity of such a law, nor to array the statistics, easily obtained, to show the number of deaths yearly for the want, in part at least, of such legal provisions, and resulting from the criminal or careless use of such articles as are usually called poisons. If there is but *one*, and that *one* might have been prevented, the argument is complete and the array of statistics ample for our purpose.

Life is not so cheap, nor its tenure so certain, that we can afford to allow the vicious and revengeful such ready and potent means for its destruction, or leave in the hands of the careless and ignorant such dangerous implements of death. If there is any one who wishes to know more of the details in regard to these cases of poisoning, we refer them to the daily papers for any continuous week, and they will be more than satisfied, as they see the oft-recurring heading of "Poisoned."

In endeavoring to draw up such a form of enactment as shall meet the wants of the case, we find great difficulty, — first, in specifying just what should be embraced in a list of "poisons," and secondly, to guard their sale sufficiently without materially interfering with the legitimate trade of the apothecary.

In seeking for light and guidance, we have referred to all the laws upon this subject that have been within our reach.

The most severe and arbitrary we find to exist in Europe, especially in France and Prussia. In the first-named country, the list of such articles is very large, and embraces every article that could probably cause death in the hands of the criminal or careless dealer or buyer. The shop of the vendor is subject to regular, and irregular visitations and close inspection, and all such articles are registered and reported once in so long a time, and kept in peculiar shaped and colored bottles, — with various safeguards beside.

In the latter, the apothecary is obliged to subscribe to an oath, in which he specifically agrees to abide by the laws in general, and such as relate to his business in particular, and he is subject to the same visitation and inspection as in France, and in both countries *no one* can open an apothecary shop without a rigid examination into their qualifications, integrity, and character, and the procurement of a license granted upon such examination. In Ireland, the law is equally rigid, but not so strictly enforced, while in England and Scotland it is more lax and more neglected.

In many of the States of this country we have laws regulating the sale of poisons; in none of them, as we are aware, except in New York, is there any attempt to regulate the *general business of an apothecary*, and this statute in New York is too imperfect to be of any *practical* value in this respect. In all the Southern States, laws exist with regard to the sale of such drugs to slaves, and in many of them minors are included, while in many of the Northern States the prohibition is in regard to minors and persons of unsound mind. In some of the States, as in Ohio, there is a regular code embracing most that is required, though making no effort to restrict the number of such as shall sell poisons, by requirements touching their qualifications.

In almost all there is a difference made, as between the regular physician and his prescription, and an ordinary call for these articles, and in no case is there any specification as to who shall be considered a regular physician, whose prescription is to be entitled to respect.

Many of the laws upon this subject have been too prolix, covering half the materia medica and everything which *might* prove dangerous in the hands of the vicious or ignorant. Others, with a view to

embrace only the most common and frequently sold articles, specify only two or three. The one fails because it seeks to do too much, and the other fails also because it attempts too little. There are some articles, such as *arsenic*, that are known to the most ignorant as a deadly and sure poison because of its frequent use in the destruction of vermin, while there are others equally sure and much more rapid in their effect, as *nicotine*, that are scarcely recognized except by the physician and dispensing apothecary. There are others holding an intermediate position, and need to be guarded with less care than the first, but more than the second.

To meet all these points will be found no easy task. In Europe, as has been remarked, the laws are much more stringent than we can pass, or enforce if passed; for instance, we cannot expect to regulate the general business of the apothecary so far as to compel him to an examination before entering upon such a business.

What we need, and what we think we can have, is a law that can be made nearly uniform in all the States. It must, to be effectual, embody two things, — first, a clear specification of who may and who may not sell poisons, in small quantities, and thus limit the number of places where such articles can be had; and secondly, what articles shall be deemed poisons, and under what restrictions they may be sold.

Your Committee recommend, therefore, that none but practising physicians, and apothecaries who shall hold either a diploma from a college of pharmacy, or the certificate of the American Pharmaceutical Association, or the certificate of two or more respectable practitioners of medicine of the town where they reside, as to their qualifications as apothecaries and their integrity as men, shall be allowed to sell in quantities less than such as are specified in the list of articles known as *poisons*.

Also, that a record of all such articles, when sold to strangers or in small quantities, shall be kept, including the name of the purchaser, and sex, and the articles sold. This must embrace all such sales, whether sold on prescription or not, except when the physician is present himself.

We append the laws that already exist, so far as we have them at hand, also a list of such poisons and dangerous drugs as we think should be embraced in such legal restraints and a form of law.

For this list, and many valuable suggestions in regard to this law, we are in part indebted to some of the oldest and most respectable apothecaries of New York city, among whom, we name with pleasure, Jno. Milhau & Son, Jno. Meakim, Wm. Hegeman, and others.

Maine and New Hampshire agree in requiring the following poisonous substances, viz. arsenic, corrosive sublimate, nux vomica, strychnine, and prussic acid to be sold (except upon prescription of a physician) only under the following restrictions: 1st. The bottle or package must be furnished with a label bearing the name of the article, and the word "Poison" distinctly upon it. 2d. The name of the purchaser, together with the quantity bought, must be entered upon a register kept for that purpose. 3d. None of these articles may be

placed on, or within 200 rods of a highway, for the purpose of killing noxious animals. The penalty in the former State may be \$50, in the latter \$100.

Michigan, Wisconsin, Oregon, Iowa, and Missouri also require labels for substances usually called poisonous, and the last-named State provides that they shall not be sold to minors or slaves. The penalty in the first three States may be \$100.

The statutes of Massachusetts provide that any person selling arsenic, strychnine, corrosive sublimate, or prussic acid, except upon the written prescription of a physician, shall keep the record of, first, the date; second, the article sold; third, its amount; and fourth the name of the purchaser. Penalty not more than \$50. Any purchaser giving a fictitious name is liable to a fine not exceeding \$50.

But the Ohio code is more complete on this subject than that of any other State in the Union.

It provides that no person shall sell or give away any poisonous substance, save upon the prescription of a physician, except under the following restrictions:—

I. He shall register in a book kept for the purpose:

1st. The name, sex, and color of the purchaser.

2d. The quantity purchased.

3d. The purpose to which the purchaser intends applying it.

4th. The day and date on which the purchase was made.

5th. The name and residence of the person for whom it is purchased.

II. The bottle or package shall be labelled "Poison."

III. Such articles shall not be sold to minors.

IV. Further, with regard to arsenic alone, that no quantity of this substance, less than one pound, shall be sold, except upon prescription of a physician, until it shall have been mixed with soot or indigo, in the proportion of an ounce of soot or half an ounce of indigo to an ounce of arsenic.

The New York law requires, that persons who sell poisons shall register the names and residences of parties purchasing, unless in case of a physician's prescriptions. The labelling must be attended to properly. The poisons here referred to are arsenic and its preparations, oxalic acid, corrosive sublimate, chloroform, sugar of lead, tartar emetic, opium and its preparations, oil of bitter almonds, the cyanides, deadly nightshade, henbane, and poison hemlock.

The sale of the following poisons by retail is prohibited unless by the written order of a regular authorized practising physician, whose name and residence shall be attached to such order: prussic acid, aconite and its preparations, atropia and its salts, cantharides, croton oil, datura and its salts, delphinia and its salts, digitalis and its preparations, nux vomica and its preparations, elaterium, ergot and its preparations, veratria and its salts, cannabis indica and its preparations. A fine of \$100 may be recovered for a violation of these restrictions.

The Pennsylvania law directs that no apothecary or druggist or other person shall retail any morphia, strychnine, arsenic, prussic

acid, or corrosive sublimate, except upon prescription of a physician or on the personal application of some respectable inhabitant of the place, of full age. The word *poison* shall be legibly marked on the bottle or package, and when sold otherwise than by prescription of a physician, the name and residence of the person to whom sold, the quantity sold, and the date of the sale, shall be entered on a register kept for the purpose. A person violating these provisions shall be guilty of misdemeanor and fined, not exceeding \$50.

G. B. GUTHRIE, M. D.,

Chairman of Committee.

LIST OF REGISTERED MEMBERS.

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JOHN F. LAMB, " " "

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J. W. HOUCK, M. D., " "

RHODE ISLAND.

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G. L. COLLINS, M. D.,	“ “
F. H. PECKHAM, M. D.,	<i>Medical Association.</i>
TIMOTHY NEWELL, M. D.,	<i>By Invitation.</i>

OHIO.

CINCINNATI—EDWARD MEAD, M. D.,	<i>By Invitation.</i>
COLUMBUS—ROBERT THOMPSON, M. D.,	“ “

TENNESSEE.

MEMPHIS—C. B. GUTHRIE, M. D.

GEORGIA.

SAVANNAH—R. D. ARNOLD, M. D., Mayor.

U. S. ARMY.

BOSTON—A. N. McLAREN, Surgeon.

ERRATA.

Page 63—For “ Dr. Condict,” read “ DR. CONDUCT.”

“ 74—After Mr. Haswell’s resolution, insert “ Adopted.”

“ 92—For “ Dr. Stone,” read “ DR. STORER.”

“ 93—Line 15—For “ contemporary,” read “ temporary.”

“ 94—After resolutions of thanks, insert “ Adopted.”

“ 98—After Alderman Clapp’s order, insert “ Adopted.”

“ 99—After “ Hon. Josiah Quincy,” insert “ Jr.”

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